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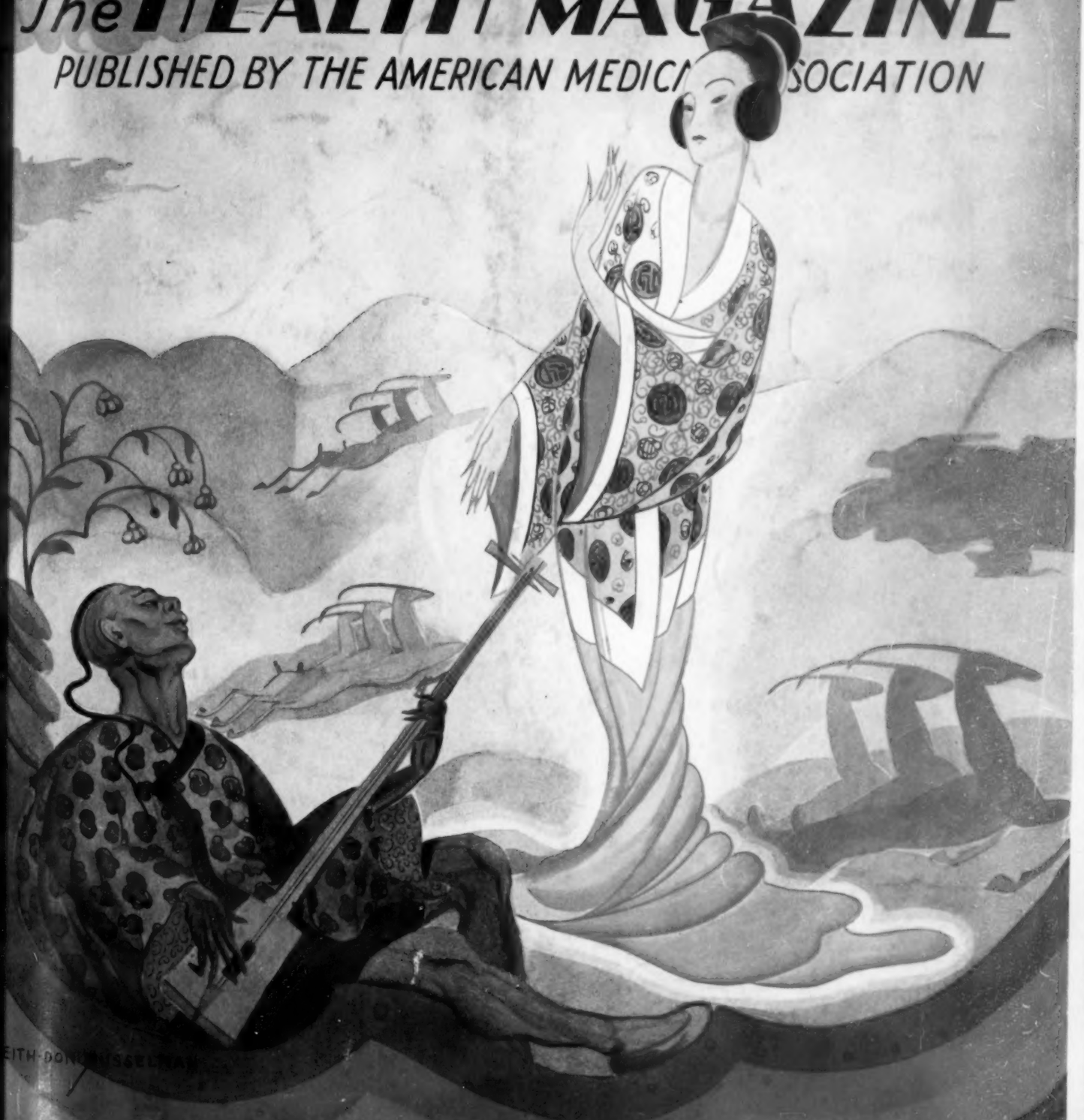
HYGEIA

The HEALTH MAGAZINE

PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION



APRIL, 1931

Lessons in Relaxation

Use and Abuse of Cathartics

Mellin's Food and Milk

provided the nourishing meals for this sturdy boy

from the age of four months until the end of the bottle-feeding period. His photograph is outstanding evidence of the value of Mellin's Food as a modifier of milk for infant feeding.

Mellin's Food **A Milk Modifier**

HYGEIA, the Health Magazine, is published monthly by the American Medical Association, 535 North Dearborn Street, Chicago, Ill. Yearly subscription price, $3.00; for foreign postage add 50 cents. Volume 9, Number 4. Entered as second-class matter March 21, 1923, at the postoffice at Chicago, Ill., under the Acts of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1,103, Act of October 3, 1917, authorized March 21, 1923.

HYGEIA

THE HEALTH MAGAZINE

Published by the American Medical Association

Edited by Morris Fishbein, M.D.

VOLUME 9 APRIL, 1931 NUMBER 4

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Contributors to This Issue

MAJOR WILLIAM O. WETMORE, who writes on the benefits of the community swimming pool, is the sanitary inspector of the public buildings and parks in Washington, D. C. J. A. LE PRINCE, chairman of the National Malaria Committee, who dispels old beliefs about mosquitoes, has had many years' experience in mosquito control both in this country and in Panama.

Pitfalls of the cathartic habit are pointed out by DR. BERNARD FANTUS in this issue. Dr. Fantus, a professor of medicine and a practicing physician, drives the lesson home by discussing the dangers of what is a common practice in many families. The series on the care of the expectant mother and baby by DR. EDWARD LYMAN CORNELL, obstetrician, is concluded this month with the paper on the clothing and equipment required for a new baby.

Readers of LULU G. GRAVES' article on eggs will appreciate her advice on how to cook this food, which is so popular at present prices and at this season. Miss Graves is a consulting dietitian and a writer of articles on nutrition. There is no reason why anesthesia should not be approached without fear after the reader has been encouraged by M. S. STROCK's article on the subject. He pictures the recent advance in the methods of induction of anesthesia.

DON C. LYONS, D.D.S., writes another of his articles on the teeth and the mouth, this time stressing the importance of the care of the mouth in the prevention of disease. The author of "Dancing Mothers and Dancing Daughters," MARGUERITE AGNIEL, is a dancer, whose articles on exercise and dancing have been widely published.

The history of modern eye glasses is told by DR. FASSETT EDWARDS, author of a recent article on glaucoma. The importance of a healthy mind as well as a healthy body is emphasized by E. LEE VINCENT, child psychologist, in her article on "The Meaning of Mental Health." Miss Vincent is the author of "Emotion in Family Life," which appeared in January. ALINE BALLARD describes the training of the crippled children at the Hospital School of the University of Michigan, and she gives excellent reasons why the education of hospitalized children should be carried on.

DR. THURMAN B. RICE continues his series of "Lessons in Relaxation" with an article on "Learning to Let Loose." IDA SPAETH, who has contributed other pleasing children's stories, adds to her list with the story of Tag-a-long at the dentist's. NELLIE G. HERRIMAN presents her Alice in Slumberland in an entirely new episode with the King of Hearts.

Published monthly by the American Medical Association, 535 North Dearborn Street, Chicago. Subscription price $3 a year. Single copies 25 cents. Foreign subscriptions $3.50 a year.

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A MIRACLE MAN PASSES

IN Gallspach, Austria, lives Zeileis, the latest miracle man to cross the medical horizon. From the time of Mesmer, charlatans have repeatedly gained wide repute through application of the power of suggestion to the healing of disease. Of the same character as the healings of Mesmer, Dowie and Coué are the miracles of healing said to occur at Lourdes, St. Anne de Beaupré, and quite recently at Gallspach.

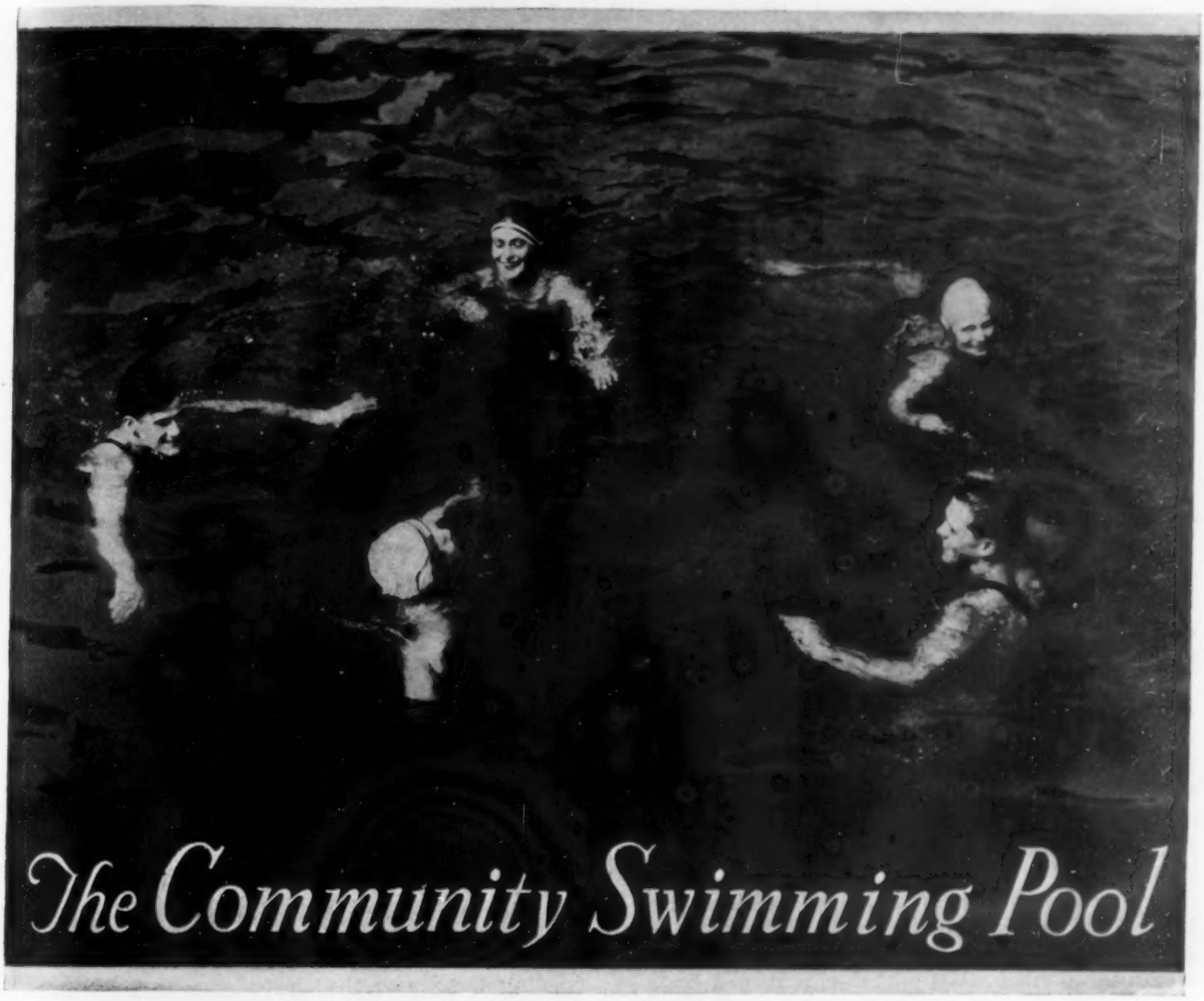
In 1924 it was reported that Zeileis was healing vast numbers of persons by the use of a tube of glass that sputtered and emitted rays of light. Thousands of persons made the pilgrimage to Gallspach to witness the making of instantaneous diagnoses by the master mind and the healing of thousands merely by being touched by the high frequency tube. They paid for this attention but a few shillings each. Nevertheless, during 1929, 95,535 patients visited the healer, and that represents a lot of shillings. Like Albert Abrams, Zeileis introduced physical electrical methods involving the use of something of which the average man knows nothing and is willing to believe anything. Like Coué and Mesmer, he depended on the power of suggestion. Like Brother André and Aimee McPherson, the sums received were minimal but the visitors considerable in number.

INTO a large room in an old castle, from 100 to 130 persons would be admitted at one time. When the room was filled, the doors would be closed. Most of the patients merely bared the upper halves of their bodies, a few undressed completely. Zeileis, holding in his right hand the glass tube with the high frequency current, cast over the multitude the sputtering blue rays. As the patients passed before him, he stroked them over the breast or back and occasionally touched the forehead. Associated with Zeileis were two physicians willing to sell their medical birthrights for the charlatan's mess of pottage. We have them also in our country. One of these physicians handled a small therapeutic x-ray apparatus such as is used by doctors in the treatment of diseases of the skin and by charlatans in the removal of hair by the x-ray method. The second physician had a simple infra-red light apparatus.

In most cases the patients brought their own diagnoses because, like the patients of most charlatans, they were sufferers from chronic diseases; they had had treatment in all sorts of institutions, had improved, had become worse and had improved again. Their diseases had been diagnosed in most instances by competent men but cures were not easy. In the few instances in which patients came without diagnosis some of the results were pitiful, as a proper diagnosis of their cases might have saved their lives. Thus, one with a substernal goiter failed to have proper diagnosis and died enroute home, believing himself cured. A woman with a large tumor of the uterus thought herself cured by Zeileis but developed a hemorrhage on the way home. A man with ulcer of the stomach had a rupture of the ulcer after being treated by Zeileis, who failed to make a proper diagnosis. These cases can be duplicated in any clinic conducted by charlatans in which diagnoses are made by instinct alone.

IN THE years that have passed since 1924, Zeileis has reaped a large reward. The whole region surrounding his headquarters profited by the influx of thousands of patients. Just as some of the business interests of Milford, Kan., and Taylorville, Ill., found a soft place in their hearts for Brinkley and Hoxie, so did the village of Gallspach defend its Zeileis. Hotels of all kinds sprang up. Attempts were made by the medical profession and by the enlightened press to stop the practice but were without avail. Then came a typhoid epidemic and a series of damage suits against the miracle man by patients who had lost the hope of a cure by their delay in the hands of the charlatan. As is the case with every modern charlatan, the pendulum soon began to swing in reverse. It is reported that forty-two of the buildings and shelters established to care for the patients are now unoccupied, have gone into the hands of receivers and are to be sold at auction.

Zeileis, once so remarkable a personage that the *Literary Digest* gave him two pages, will in the passing of another year be just another chapter in the history of quackery. But, alas, there will be others to come in his place. Who can ever hope to educate the average man as to the significance of the power of suggestion? Even scientific men occasionally fail to realize the post hoc propter hoc fallacy! How few actually have the ability to evaluate evidence! The public loves miracles. P. T. Barnum knew it. There is seldom a generation without its Barnum. Brinkley no longer broadcasts rejuvenation from Kansas. Abrams is dead and his technic died with him. But there will be others. As H. L. Mencken once asserted: Americans do not give up one quackery until another even more incredible comes in its place.



The Community Swimming Pool

By William O. Wetmore

THERE is a science of swimming and its rules are exacting. There are art and esthetics in the beautiful rhythm of a well developed stroke or a smoothly attempted dive, and there is education in store for all who attempt to master the intricacies of form and speed. Swimming has few equals as a simple recreational asset, for the fun and gaiety are always mixed with the possibility of usefulness to the swimmer himself or to some companion in distress. As a sport it combines great physical development of all the larger muscles with small chance of overexertion, better organic function as a result of the increased metabolism and richer blood supply, and splendid competition with its train of character-building potentialities.

All of the foregoing benefits may be claimed from swimming in general. What we now shall consider are the advantages offered by properly supervised, hygienic outdoor swimming pools as compared to the natural swimming places such as the streams, rivers, bays and ocean beaches.

The greatest point of advantage, I believe, lies in the increased safety that the pools offer. This safety is of two kinds: first, safety from drowning; and, second, safety from bacterial infection.

The better pools and the houses used as bath houses, engine rooms, offices and emergency rooms are planned by architects who have studied the situation with great care in an attempt to reduce accidents to a minimum. All corners and edges in the pools are rounded, the scum gutters are wide, the depth is marked at short intervals around the edges, the dangerous parts are especially indicated, and the diving boards and apparatus are the best and safest obtainable.

The real guardians of the safety of the crowd are the life guards. These young men are picked for their athletic prowess and character; one of these qualifications is as important as the

other, for the order of the pool and the general morale of the people who attend it are direct reflections of the type of men in charge. The life guards must be members of the American Red Cross Life Saving Corps and are usually college athletes.

If an athlete is to become a member of the corps he must swim one-fourth mile; recover weights from a depth of at least 10 feet; demonstrate the side, crawl, back and breast strokes; carry a fully dressed man for a minute; demonstrate the front, back and underwater approaches to a drowning person; break the front and back strangle holds while in the water; break two persons apart and break the double wrist lock; carry a large person with the four recognized carries—cross chest, double arm back, double chin and hair; jump in the water fully dressed, undress and swim 100 yards; demonstrate the standard dives, and show some teaching ability. To supplement this practical work an oral examination is given on life saving, the running of a camp, the physiology of respiration and the anatomy of its mechanism.

The most rigid part of the test consists of the theory and practice of the prone pressure method of artificial resuscitation. All guards must be masters of this system. With short distances to be covered, clear water to see through and guards so well trained, the possibility of a person drowning in a pool is reduced to a minimum.

Far greater, however, is the protection offered the pool patrons from the myriad invisible dangers in the form of pathogenic bacteria. In speaking of sanitation and purification I have in mind the systems used in the McKinley and Francis pools of Washington, D. C. They are typical of the hygienic methods used in the best pools.

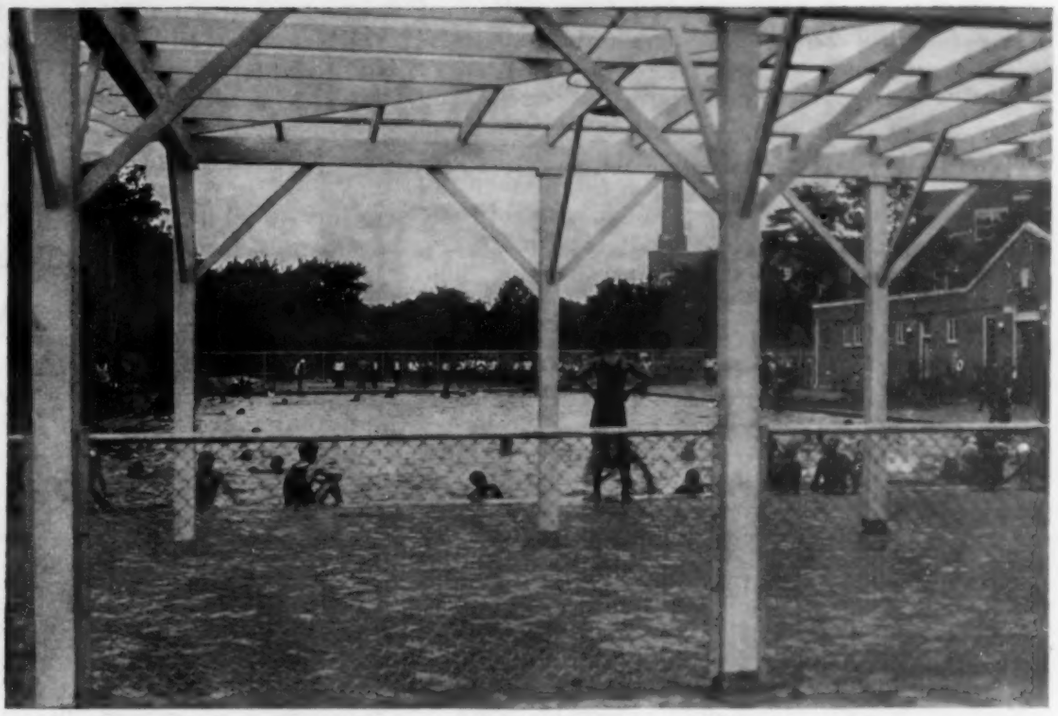
Practically all river water and even that of streams and brooks is contaminated by the waste products of manufacturing establishments, largely chemical in nature, and by the pathogenic bacteria of sewage, the latter being the more dangerous element.

River water that has been fouled by sewage will, if flowing fairly rapidly, become greatly purified by oxidation, sedimentation, predatory micro-organisms and sunlight in from 10 to 20 miles, but even then the water cannot be declared safe for drinking purposes. This is the sum total of the natural protection given the bathers in rivers and streams. Nor does the salt of the sea add any considerable amount of protection.

The germs of typhoid fever usually die in river water in from three to ten days, in water moving less rapidly in twenty-five days, and instances are known of the germs becoming virulent after having been frozen in ice for a period of six months. Streptococci often remain alive in water for a longer period of time than the *B. coli,* the bacillus found abundantly in the human intestine, and have been found in cases of sinus infections when *B. coli* was practically absent. Most of the other bacteria that develop in the intestines of man are necessarily found in polluted water.

The great danger is the pollution of the swimming pool by the bather himself and many precautions have to be taken to keep him from fouling the water that he wishes to have in the

McKinley High School pool, Washington, D. C.



A community pool for Negro bathers, Washington, D. C.

best possible condition for bathing. At home a person never takes the precaution first to have a shower bath in order to have the tub water clean, but this is the first and most important thing in pool bathing. It is necessary so to construct the building in connection with the pool that swimmers must pass through a shower that is kept running at all times; this means not only that the swimmer gets a shower upon first entering the pool but that any one leaving the pool to visit the toilet can return only through the shower. It is necessary to have the drainage so constructed that when any one walks around the pool the dirt that is left by them will drain away rather than toward the pool.

A close supervision has to be had of all bathers entering the pool. No persons with skin diseases or other infections should be allowed to enter the pool and an effort should be made to err on the side of exclusion rather than inclusion in dealing with this matter. The inspector should be either a physician or some one specially trained. The basin itself must be thoroughly scrubbed at the end of each day, if the volume of business is great.

Let us now observe the process through which the water in a city pool goes before it is delivered for bathing. First, all the water is drawn into large municipal reservoirs. Here it is exposed to the sunlight; thorough gravity sedimentation occurs and the water becomes clarified. The sunlight continues to disinfect the water and it is powerful in destroying bacteria. Next, this water is run through city filters and in the process described about 95 per cent of organisms, disease-producing and others, are removed. The water now passes out through pipes and is fit for drinking.

This water is conducted to the pool at the rate of about 500 gallons a minute and when the pool is full the flow is cut down until there is just a bit of overflow. In the ordinary sized pool used in cities a seven and one-half horse power motor pump operates to produce sufficient force to send this water through a system of filters at the swimming pool. The 1,750 revolutions per minute gives a flow of 435 gallons per minute through three high pressure filters; these figures are given merely as an example of what is required. The filters themselves contain a top layer of quartz sand and beneath it four layers of unusually large sized gravel with an overbed of rocks at the bottom. Without mechanical aid they should remove practically all organisms and with the use of aluminum sulphate as a coagulant the entering water should be as pure as the original water from the city reservoir. The value of the filter depends on a growth of algae and these filters improve as they are used to a certain point and then they must be washed and the process started over again.

In order further to insure the purity of the water it is chlorinated by adding chlorine gas, one part to the million, and is treated with a preparation, soda ash, to make it alkaline. The filters themselves are cleaned by reversing the flow through them and this material is carried back into the sewer system.

In order to assure the operators that their pool is meeting requirements, that the filtration is effective and that a proper amount of chlorine is added to the water, samples are taken and standard sets of sealed tubes of known value are used as indicators. Phenol red is the reagent used in reading against standards. The weight

of chlorine used as compared to a gallon of water is observed and is checked against its color reaction.

The water is further examined by taking samples and submitting them to a laboratory to discover the bacteriologic content and it has been determined that a contamination of 10 colon bacilli to the 1 cc. of water is prohibitively large; this is the determining point in sending drinking water from one state to another. The presence of any colon bacilli indicates pollution of a human nature and the test must show that this is entirely overcome by the process used. Colon bacilli will outnumber disease organisms by the million.

Under the conditions described and with the precautions used bathing is perfectly safe in city pools. During the summer days one may enjoy exercise at the pools and cool off at the same time, and it is hard to think of another form of athletic amusement of which the same may be said. In fact, bathing is the after-thought in almost every exercise.

There is less restraint at a pool than in most amusements. There is a chance to relax entirely and forget the worries of everyday life. The mind as well as the body is rested and to those who take advantage of this form of pleasure there is nothing that will take its place. The laborer in a bathing suit is often a finer specimen than his learned associate and so standards are broken down temporarily and physical rather than mental powers are under observation. Laughter and vocal expression are a relief to pent-up feelings and those who frolic in the water are better for doing it both mentally and physically.

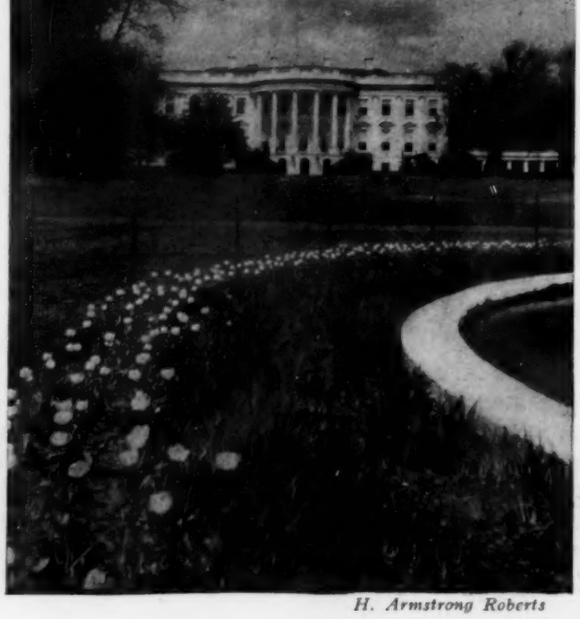
The greatest good of the community swimming pools, however, is in the influence they have on the young folk. The ideal situation is to have a small pool for the children, separated from the large pool. Here at an early age they learn to overcome the fear of water, to trust themselves and to protect others; the sun bath that accompanies the swim is the foe of rickets, the scourge of the poor in the crowded cities. Through hard play in clean water and fresh air, the children grow straight and strong, their lungs expand, and they go home to eat heartily and sleep long.

Many persons think that ocean bathing is especially clean, but it lacks the supervision found in better outdoor pools. A person never knows who has used the dressing rooms, whether they are contaminated by disease or not, and if he looks at the persons who are bathing in the ocean at most resorts he is unwilling to share a room with them. Often the bather hires a bathing suit that is not thoroughly sterilized. The beaches themselves are littered with food leavings and flies and insects abound. Because of the terribly crowded conditions at the popular resorts the supervision, in comparison with swimming pools, is not good. The mortality at these resorts is large, and the control of child bathers is less complete than in city pools.

Child Health Day to Stress Community Responsibility

MAY DAY, 1931, brings another National Child Health Day, under the leadership of the American Child Health Association. The program for May Day this year is based on the conclusions drawn at the White House Conference with the slogan, "Community Responsibility and Cooperation for Child Health and Protection."

Community responsibility and cooperation can be made most effective, first, by the protection and support of adequate full-time community health service in cooperation with the medical and dental profession, laying special emphasis on the needs of the infant and the preschool child; and, second, by adequate school health programs.

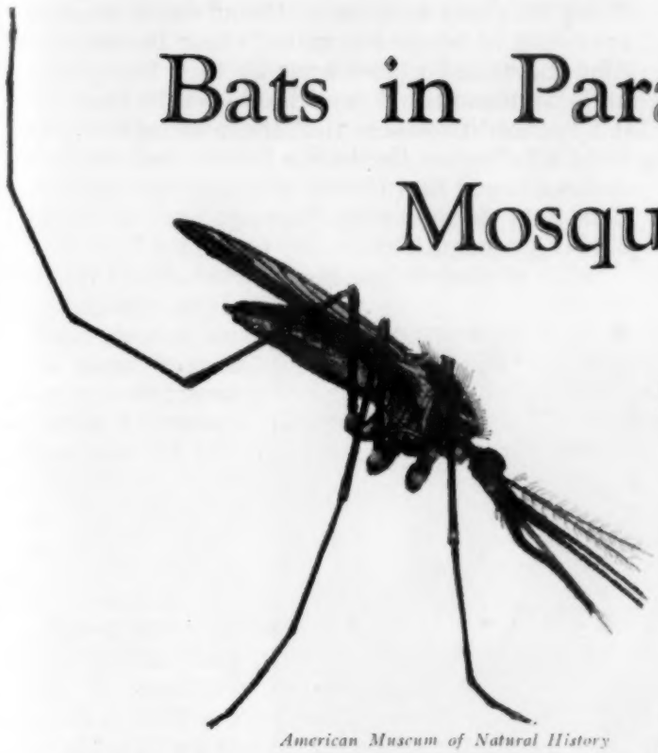


H. Armstrong Roberts

The observance of May Day this year draws added fervor from the White House Conference. The programs are proposed to further the health and happiness of the child regardless of the race or situation.

More than forty-five million children live in the United States. Some are in poverty-stricken homes; others are crippled and diseased. Wherever and in whatever condition they are, they deserve protection.

Bats in Paradise, and Mosquitoes in Clover



American Museum of Natural History

A model of the malarial mosquito, side view.

By J. A. LePrince

FROM time to time we read in the public press that one of the best ways to get rid of mosquitoes and malaria would be to build bat roosts and let the bats destroy the pestiferous and disease-bearing mosquitoes.

An article has recently been widely published claiming that if leguminous plants, such as beans or clover, are grown near homes in districts of high malaria prevalence malaria mosquitoes will feed on these plants and will not transmit malaria.

For more than a quarter of a century I have been engaged in malaria control investigations and control campaigns, and I advise that caution be used in adopting methods of mosquito control that have not been thoroughly tried out by experienced field workers.

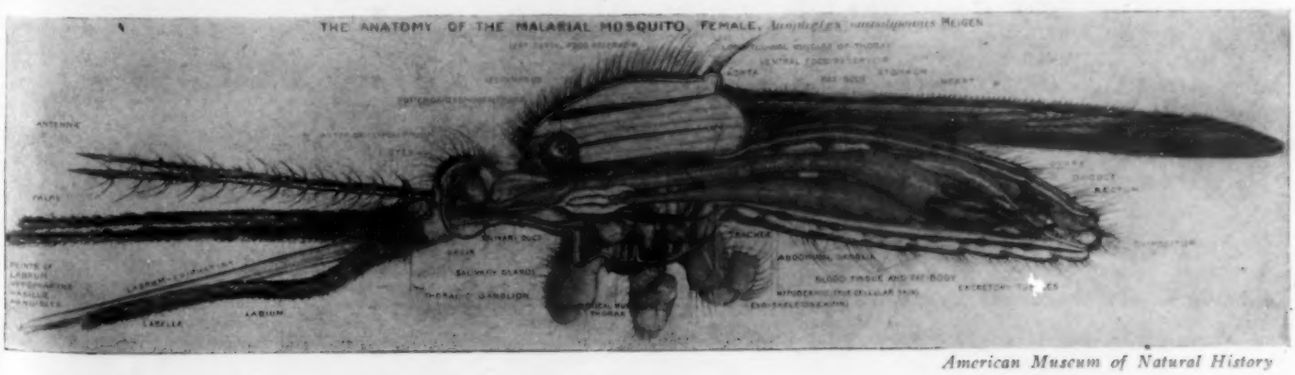
When the little yellow-fever mosquito began to interfere with the construction of the Panama Canal, Culebra was the potential danger point, and I tried to establish a campaign headquarters there to be ready for the fight, but was told that there was no space available for sanitation forces. So we went to the nearest village south of Culebra where suitable headquarters were available. This place was called Paraiso, which is Spanish for paradise.

There was a large two-story house called "La Papote" which, the mayor of the village assured me, was unfit to live in because it was haunted and no one had ever lived there since the French engineers left. I was also told that this house had been the headquarters of Monsieur Eiffel, who returned to France and built the Eiffel tower.

On our first visit to this house one of the party started up the steps and promptly fell through, as the termites, or wood ants, had eaten up most of the staircase. The ghost turned out later to be an ant-eater that visited the garret of the house at irregular periods.

Our yellow-fever combat force established headquarters in La Papote, and we found that the attic was occupied by hundreds of bats that were expert in taking short cuts through the bedrooms. When we later screened the windows the bats would occasionally test the wire screen, and probably they felt as bad about their injuries as we did about the noise they made.

We kept some tubs of water close to the house for experimental purposes as places to collect mosquito eggs; the bats may have caught many mosquitoes, but there were plenty of them left and mosquito eggs were laid in our water tubs just as though no bats had been present. At



American Museum of Natural History

about that time Sir Ronald Ross, the man who unmasked the means by which malaria is transmitted, paid us a visit. He did not think bats were important in destroying mosquitoes and suggested the need of mosquito traps, of using fowls for bait and of tossing about a larvicidal powder to prevent mosquito production. Within a few years mosquito traps were so devised by Americans that the odor of the sleeping laborers in barracks proved satisfactory as bait. Since then a powder consisting of paris green in hydrated lime is being widely used and is carried by wind over breeding places of malaria mosquitoes.

Some investigators interested in the destruction of mosquitoes by bats visited what was called a properly constructed bat roost in Texas and they found three different species of the malaria mosquito breeding in stagnant water close to the roost. Also in shaded places near by they found many malaria mosquitoes well loaded with blood and it appeared probable that these mosquitoes had been feeding on the bats. So we find that mosquitoes breed in quantity close to bat roosts and that bats do not stop propagation of disease-bearing mosquitoes.

With regard to the recent claim that leguminous plants such as beans, alfalfa, clover and wild sweet clover are a means of preventing the anopheles mosquito from conveying malaria, there was good evidence in the eighties that this did not hold good in the upper portion of Manhattan Island, New York. At that time there was a prolific

A paris green-soapstone dust cloud from an airplane.

Paris green and lime dust liberated by an electric blower destroys the larvae of the malaria mosquito.

source of anopheles in Lecthaler's Pond on the property of the institution for the blind, which extended from 165th to 169th street at the western side of the present Broadway, then called "The Boulevard." As the older medical practitioners there well know, malaria had been present in the upper portion of the island for years and it remained until all land that previously had produced the anopheles mosquito was drained and covered by buildings.

Wild sweet clover grew profusely along the entire eastern shore of this pond. In fact, there was a continuous stretch of it about 1,200 feet long extending from the road curb to the pond edge and it was sufficiently dense to crowd out other vegetation. There was a single narrow sidewalk between the curb and the pond and the tops of this wild sweet clover came together over it. Also clover grew on the far side of the road. Large numbers of insects and bees visited this wild clover when it was in bloom.

Old Belmont House, Broadway and 169th street, where the first moving picture was made by the author's father in 1885. Fields of clover did not prevent the spread of malaria there.

It was in this locality, near where the Medical Center now stands, that I lived as a boy, and the clover and wild sweet clover did not prevent the spread of malaria. Our home was known as Belmont House and was located less than 1,000 feet from the pond. The land surrounding the house was a large field of red clover, with much white clover in it; it was not then used as a pasture.

In our family my elder brother contracted malaria; the nearest neighbor, Mr. R. O'Neil, had malaria, and the disease was common in other homes within a mile of ours. Clover and wild sweet clover were to be found in quantity on the roadsides and in the fields near these homes, but it apparently had no effect in preventing malaria transmission.

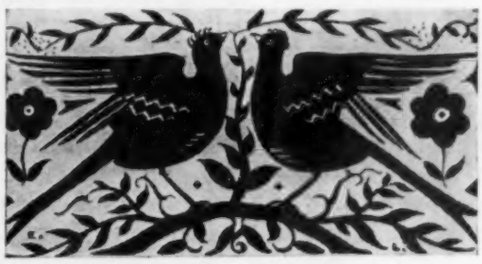
While it might be true that in some countries certain leguminous plants may result in malaria reduction, it does not follow that this is true in all countries, and definite proof is available that such conditions did not hold true on Manhattan Island.

In our country, as a general rule, the highest malaria prevalence is in sparsely settled rural districts. When elimination of malaria mosquitoes by means of drainage is not practical more attention should be given to the screening of farm homes and to making them mosquito-proof.

In some parts of counties in the Southland, where cotton is the main crop, 20 per cent or more of the families have malaria; most of the sickness is in the homes of the farm tenants. A study of the situation has been made by the United States Public Health Service and it has been demonstrated that the average farm tenant home can be screened at an average cost of $10, or an annual cost of $2.50 or less.

Immediately after the Mississippi River flood in 1927 the Red Cross and the United States Public Health Service rapidly screened about 7,000 farm tenant homes. A great advantage of this means of malaria control is that it also helps to reduce the spread of typhoid, of summer sickness of little children, and of dysentery, as well as other fly-borne diseases. This work of the Red Cross has inspired hundreds of plantation owners to screen their farm tenant homes in the last three years. A banker who has much land planted in cotton in two states of the Mississippi Valley says that the screening of his farm tenant homes is the best investment he has ever made.

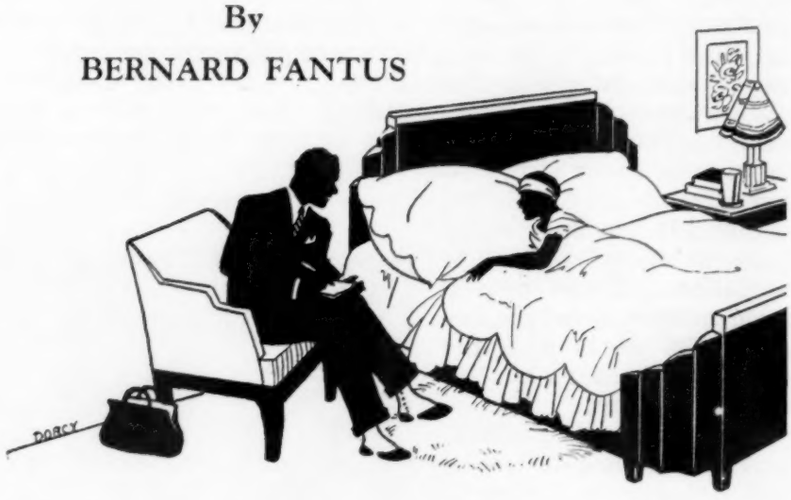
Since the successful malaria reduction campaigns were conducted by our government in Havana and at Panama great progress has been made by the United States Public Health Service in the study of methods of malaria control. The recently developed methods of applying paris green for destruction of larvae of the malaria mosquito indicate that it may be used on a county-wide scale in the rural districts to decided advantage.



Uses and Abuses

By

BERNARD FANTUS



CATHARTICS, or bowel evacuants, used from time immemorial, had a much greater sway over the practice of medicine in the past than they do today. The word "physic" meant both the art and science of medicine, and a purge. Even today this constitutes the knowledge of medicine of many persons.

Because the use of cathartics is still excessive, it might be well to point out conditions under which they become dangerous. Foremost among these should be listed abdominal pain, in the presence of which cathartics, except the mildest laxatives, should be tabu. Pain in the abdomen may mean an inflammation of the bowel, and the prime requisite in the treatment of inflammations is rest. Cathartics, by stirring up movement of the bowel, interfere with rest, aggravate the pain, and may cause dissemination of the infection throughout the abdominal cavity, as occurs only too often when physics are used in acute appendicitis. Intestinal colic means that the bowel is straining against an obstruction. A strong cathartic still further increases the straining of the muscle.

When there is an intestinal obstruction, the patient is not in danger because the bowels do not move; a person may have no bowel movement for a week without danger. The danger lies in the nature of the condition that produces the obstruction and the degree of obstruction. If the bowels can move, they will do so without recourse to drastic measures; if they cannot move, such measures will do great harm. For the removal of impacted material enemas should be employed rather than purgatives.

Take no cathartics for abdominal pain.

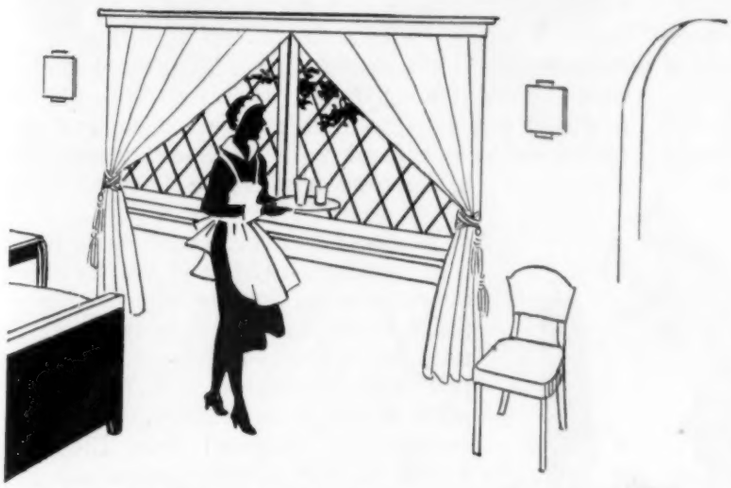
In case of mechanical obstruction by kinks or twists, the increased peristalsis, or movement, produced by purgatives will force intestinal contents into the stomach, increasing the foul vomiting so characteristic of this condition; while at the same time the driving of the intestinal contents against the obstruction aggravates the injury existing at that point, leading to dilatation, sloughing, hemorrhage and even perforation. In case of such obstruction, surgery, though it has some danger, is much safer than purgatives.

When there is a tendency to spasm in the colon, or spastic colitis, an indigestible oil, like liquid petrolatum, or mineral oil may prevent such spasm by keeping the fecal matter in the bowel soft and by rendering it less irritating. It is a typical laxative, and an agent that may be used in painful forms of constipation without likelihood of producing harm; but it is also so mild that it sometimes fails to secure satisfactory evacuation when a stronger cathartic will succeed.

Another agent that is properly characterized as laxative is sulphur, which can do no more than to produce soft, mushy stools. For this reason it was formerly much in vogue, especially to secure bowel movement for persons troubled with hemorrhoids, or piles, who are notoriously intolerant of strong physics. One of its disadvantages is the offensive flatus it is liable to give rise to, and probably for this reason its place has largely been taken by the use of liquid petrolatum.

Another mild laxative is agar, a dried mucilaginous material extracted by hot water from certain Japanese sea-algae. It is almost indigestible to our digestive juices as well as to

# of CATHARTICS



Let the doctor prescribe the proper purgative for the bed patient.

micro-organisms. Hence, it passes through the bowel adding bulk to the feces and softening them by retaining moisture. In this respect it acts much like the cellulose of fruits and vegetables that constitutes the roughage in our diet and largely acts as the natural laxative. Bran is also of this nature; and these cellulose laxatives should, of course, be preferred to agar because they are more palatable and cheaper, unless they become troublesome by the production of flatulence from excessive bacterial decomposition of cellulose, which results in the formation of gases. It is in such cases that agar may find a special place.

The purgatives constitute a class of stronger cathartics than the laxatives. They cause profuse bowel evacuation but do not produce gastro-intestinal inflammation. Among them are some of the most useful bowel evacuants. First among them may be mentioned castor oil, which differs from mineral oil in that some of it is digested, with liberation of an irritant fatty acid that causes its own expulsion. The indigested excess of oil has the same soothing and softening effect as liquid petrolatum. It is because of this combination of soothing and softening effect with a thorough evacuant action, which cannot become excessive, that castor oil still plays an important rôle in medicine, especially in the treatment of children. It holds its own in spite of its reputed nasty taste, which however modern pharmacy has succeeded in disguising to a considerable extent. When, in the treatment of diarrhea one wishes to reinforce nature and sweep the poisonous contents out of the bowel as promptly as possible, castor oil maintains its old place as the purgative *par excellence*.

The saline purgatives, from epsom salt (magnesium sulphate) to rochelle salt (sodium and potassium tartrate) and sodium phosphate, all act by keeping fluid in the large bowel, thus giving rise to liquid bowel movements. When they act well, as they generally do in persons who are up and about, they produce their effect in a surprisingly short time, within two hours as a rule. In patients confined to bed, they are frequently disappointing because they do not stimulate peristalsis to any extent, acting merely by the distention the contents produce. Because of the fluidity of the evacuation, they are often more efficient in getting the colonic contents past kinks and other narrowings in the large bowel than is mineral oil, which merely softens them. Being devoid of irritative action, they may be used in spastic conditions of the bowel. They have, however, the disadvantage of sweeping nutritive material out of the bowel, which makes them likely to aggravate malnutrition.

The saline purgatives are sometimes employed to reduce weight in obesity, a use that is objectionable, for it is much more rational to lessen the intake of food than to sweep out some of the excess by upsetting digestive functions all the way down the intestinal tract.

Calomel (mild mercurous chloride) is a curious sort of a cathartic. Tasteless and nonirritative in the stomach, so that it is usually retained by patients who vomit, it starts in on its work as soon as it strikes the alkaline juices of the upper bowel. By sweeping the contents of the small intestine into the colon it lessens the reabsorption of bile, and this, together with the fact that it diminishes the putrefactive changes that convert the bile

Don't take salts to reduce weight. Eat less.

pigment into the stool pigment, is responsible for the bile-colored stools it produces and its reputation that it acts on the liver. While this has not been borne out by exact experiments, there is no doubt that it acts like magic in the condition known as biliousness.

To discuss the various theories that have been advanced to explain the mode of action of calomel in this condition might be interesting but would lead us beyond the confines of this article. What is more important is to point out some of the disadvantages of calomel. For one thing, it is not a reliable cathartic. While it acts with certainty on the upper bowel, it seems to exhaust its action in many cases by the time it reaches the lower bowel. Hence it is usually associated with a cathartic that may be relied on to finish the job, such as the salines. This making sure that the calomel is swept out of the bowel is all the more necessary because the longer it remains in the intestine the more mercury becomes absorbed into the system and the greater is the liability to salivation, or mercurial poisoning. As some mercury is absorbed even when prompt evacuation occurs, calomel is not suitable for continuous or even frequent use. It is, of course, much better to determine the cause of the biliousness, which is generally overeating and underexercise, than to go on habitually sinning against one's system and to rely on calomel to secure absolution from the consequences of these sins.

Don't let a child grow dependent on cathartics.

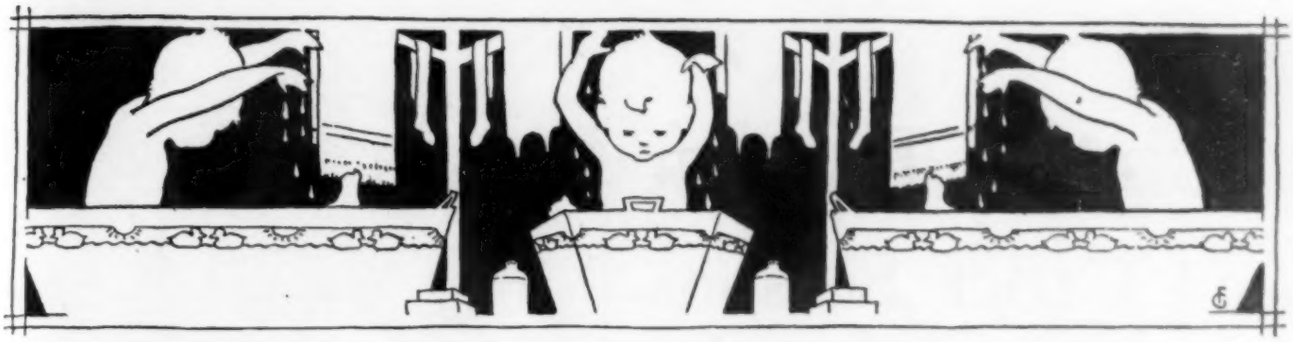
Cascara, senna, rhubarb and aloe form a natural group of purgatives characterized by special effect on peristalsis. The mildest of of them, cascara, or small doses of the stronger ones are particularly famous for producing natural looking stools and for being less likely to leave constipation as an after-effect, as most cathartics tend to do. For bed patients, one does best to choose from among them, as the bed patient's constipation is generally due to laziness of peristalsis from the lack of the accustomed stimulus exerted by bodily movement.

Senna is the one of these most easily made pleasant, so that children are most likely to be dosed with it by their mothers wittingly or unwittingly, for the popular compound licorice powder depends on senna for action and syrup of figs and many other so-called infant correctives rely on senna to do the correcting. Now if there is one thing more pernicious than anything else in the use of cathartics, it is to get an infant's or a child's bowel so habituated to cathartics that it cannot have a natural bowel movement without them. It is bad enough for a senile person, too feeble to exercise and too toothless to eat food with sufficient roughage, to become a slave to physic. It is unpardonable in youth.

When, however, conditions exist that render habitual cathartics necessary, as in the aged, aloe is most likely to be the best agent to use, for it lends itself admirably to pill administration. When such pills become necessary, one may reasonably demand that they be fitted to the requirements of the person with approximately, at least, as much care as is taken to fit weak eyes with glasses. Their use on the evening of any day on which the bowels have not moved is generally sufficient, for it is not a law of nature that the bowels must move daily.

Drastic cathartics are those agents which have a sharp purgative action and which in overdose may act as irritant poisons. Among them may be mentioned croton oil, colocynth and podophyllum. Their use is properly becoming more and more restricted. For a good physic is not, as some persons seem to imagine, a strong one, but the mildest one that will do the work. Colocynth and podophyllum are nowadays chiefly used to increase the reliability of aloe pills, most especially because aloe is deficient in action on the upper bowel. Podophyllum, which owing to its elective action on the upper bowel has been called the vegetable calomel, is probably the most useful for this purpose.

Enough may have been said to show that to obtain best results from them cathartics need, like the artist's colors, to be "mixed with brains," and that the proper use of cathartics, even though they are among the simplest of medicaments in their action, requires medical training and skill.



Baby's Clothing and Bath

By Edward Lyman Cornell

WHAT clothing and toilet articles should be prepared for the new-born babe? Previous articles have already mentioned the waistbands, the shirts, the petticoats and the stockings, and now we come to the baby's gowns.

Four gowns are usually sufficient. The lightest material should be used for summer, and flannel or jersey cloth for winter. In extremely cold weather a baby bunting may be used at night. Later, sleeping suits with or without feet may be used.

It is best to secure a crib with at least a 15 pound mattress. Get a comfortable mattress as the baby spends two thirds of its time in bed. Bassinets are not essential. Use no pillow under the baby's head. Do not put the baby to sleep on a feather pillow or wrap it in a blanket. This makes the back too warm and causes sweating and a rash. Do not cover the mattress with rubber sheeting, as it makes the baby uncomfortable and restless at night. Use one or two mattress pads. When the mattress gets soiled arrange to buy another.

Have at least four dozen diapers of outing flannel or diaper material, twenty-seven inches square. All diapers should be washed after each wetting or soiling. Do not let your baby stay wet as a wet diaper burns the skin. Change the diaper during the night when necessary. A wet diaper causes restlessness. Accumulate wet diapers in cold water in a covered granite pail. When ready to wash, rinse them thoroughly, then boil them and rinse them again. A small sized electric washing machine is helpful in washing diapers.

The baby may be trained early in regular toilet habits if you use a little patience. A toilet chair will assist you.

Pinning blankets are absolutely unnecessary. This practice makes a baby exceedingly uncomfortable because the blankets have to be bound tightly around the chest in order to keep them in place and this interferes with respiration. Don't bind the arms or legs as the baby enjoys exercise. Several wool, flannel or cashmere blankets should be secured to cover the baby.

For bathing the baby, the bathroom should be arranged conveniently. The ideal equipment consists of the following:

A small basket containing a good talcum powder, safety pins, thread and needles, one tube of white petrolatum, toothpicks, ¼ pound of sterile absorbent cotton (never use large sized packages of cotton because they lose their sterile qualities when exposed), liquid petrolatum, a bottle of 2 per cent boric acid solution and castile soap.

One bath tub or bath tray.

One folding dressing table.

One bath stool.

One bath spray with hose long enough to reach from the bath tub to the toilet stool for convenience in rinsing soiled diapers.

One wall clothes rack for airing and warming the baby's clothes, to be hung over the radiator.

Other equipment can be secured, but the articles mentioned above are the most practical. Secure a scale and weigh the baby once a week during the first six months and twice a month thereafter. Note the weight on paper so comparisons can be made from week to week. The weight is a reliable indication of the infant's condition.

A healthy baby gains from 4 to 8 ounces a week during the first six months, and about 3 ounces a week during the second six months. An average baby will double its weight about the fifth or sixth month and the weight will be tripled at one year.

EGGS for EASTER and Other Seasons

By

Lulu G. Graves

EGGS have aptly been called the cement that holds together the castles of cookery, and we certainly should find it difficult to build our menus without them. During the Lenten season when eggs are at their best many housewives make them the foundation as well as the cement of their cooking. Happily applicable to eggs are Kingsley's lines:

> Treasure-houses, wherein lie,
> Locked by angel's alchemy
> Milk and hair and blood and bone.

Ancient Hindus refused to eat eggs because they believed them to be the source of so many things both good and evil that they must be treated with reverence. We too hold them in high regard, but we refuse to eat them only when their flavor or appearance has been impaired by improper care or by the wrong method of cooking.

Though hen's eggs are used in much the greater quantities, the eggs of ducks, geese, turkeys, guinea fowl and pigeons are used where they are produced, although few find their way to the market. The protein and ash content is practically the same in the eggs of these various fowls; the fat content is higher in duck and goose eggs.

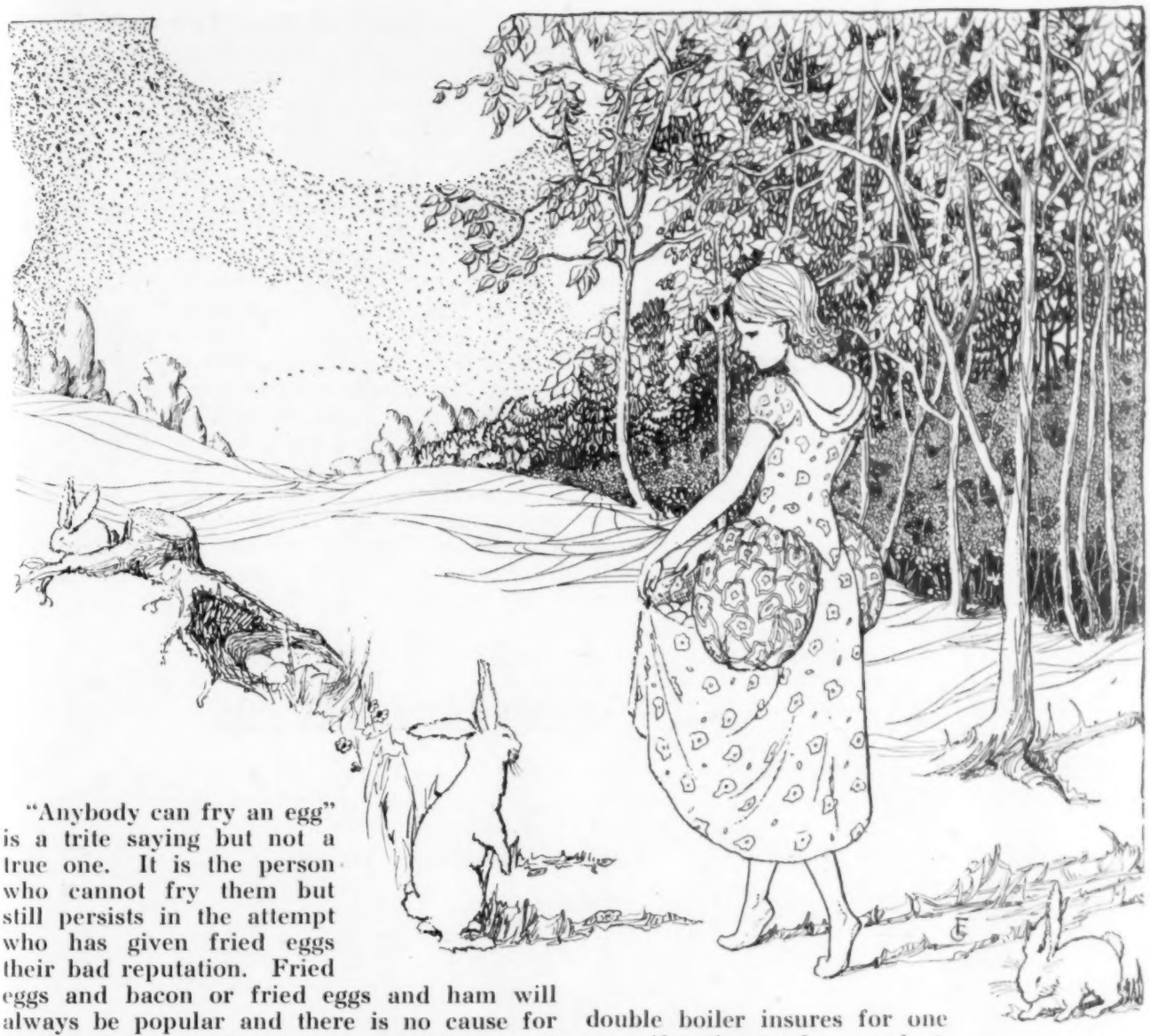
Eggs are relatively rich in all substances required for growth except vitamin C. The proteins of the yolk and white differ in their properties, but both are complete proteins. The chief protein in the white is ovalbumin and in the yolk, ovovitellin. The yolk of the egg is of much greater importance, dietetically, than the white. It contains practically all the fat, vitamin and iron and the greater part of the other minerals.

The fat is in a finely emulsified form that is capable of digestion in both the stomach and intestines. It is thought that a slight change takes place in the stomach. All the vitamins except C are present in the egg, but it is richest in A, B and D. The iron, phosphorus and calcium are in forms well utilized by the body. The greater part of the sulphur is in the white. During cooking, compounds of sulphur are formed which react with silver to form the dark deposit often seen on forks and spoons.

The important point in cooking an egg is to coagulate the protein without toughening it and to cook the egg evenly throughout. The reasons for this may be aesthetic rather than dietetic. A tender, creamy omelet or a delicate jelly-like poached egg has an appeal to both taste and sight; when tough or unevenly cooked they appeal to neither.

The "boiled" egg should never be boiled—whether cooked in the shell or out as a poached egg. The water may be boiling when the egg is dropped into it, but not after. When cooked in the shell, if the water continues to boil, the white next to the shell forms an outer wall through which the heat must penetrate to cook the center, the outer layer of white is thus overcooked and the yolk is undercooked. Equally good results are obtained by starting the cooking in cold water and reducing the heat when it begins to bubble, not boil.

The time for cooking depends on the number of eggs cooked, the amount of water used, the temperature of the eggs—that is, whether they are taken out of the icebox or are kept in the pantry at room temperature—and the material of which the cooking utensil is made. A three minute egg is an anomaly, for no two kitchens have identical conditions.



"Anybody can fry an egg" is a trite saying but not a true one. It is the person who cannot fry them but still persists in the attempt who has given fried eggs their bad reputation. Fried eggs and bacon or fried eggs and ham will always be popular and there is no cause for condemning them for the person with normal digestion. The fat from these meats is a good one in which to fry eggs; it should not be too hot or the surface next the pan will harden before the yolk and the white next to it is cooked; it should be hot enough to drain from the egg when it is taken from the pan on a wire or perforated spoon. The logical objection to fried eggs is that too much fat remains on them when they are served.

Butter is not a good fat for frying eggs; it is almost impossible to fry in butter without a chemical separation that results in substances being formed that are irritating to the digestive tract. The blue smoke indicates that this separation has taken place and the fat should not be used. Vegetable oils—cottonseed or olive—are the best forms of fat for frying, as they can be heated to a high temperature before separating. The same principle applies to the use of fat in the cooking of scrambled eggs and omelets.

Eggs are more successfully scrambled in a double boiler than over the direct heat. The lower temperature of the inner pan of the double boiler insures for one a uniformly tender product.

In addition to being a highly nutritious food, eggs are easily and completely digested. Hard cooked eggs require longer to digest, especially if they have been cooked at boiling temperature. It is an advantage when serving hard cooked eggs to children and persons with delicate digestive tracts to chop the whites finely and to put the yolks through a strainer. Friedenwald and Ruhräh say: "Raw white of egg contains something which enables it to resist digestion, but this antitryptic substance is destroyed by heating to 70 C. Raw white of egg may leave the stomach rather quickly and owing to its slow digestion is not as well absorbed as if heated."

The real quality of an egg cannot be judged by its shell. The consumer must depend almost entirely on his grocer, though a shiny shell should always be regarded with suspicion, as it indicates incubation. An egg begins to decrease in quality as soon as it is laid. It deteriorates more rapidly in a warm atmosphere than in a cold, and deterioration is increased when the temperature changes; for example, when taken

from the cold atmosphere of the storage plant and kept in room temperature of a store or when taken from the store refrigerator and allowed to remain on the pantry shelf in the home. Eggs that have accumulated on the farm, in the pantry or in the cellar for several days or a week before they are sold to the local market and are later put in storage can never be good cold storage eggs. Eggs that are good when put into storage and are kept at a low temperature will be good at the end of six months.

Environment is another factor that greatly affects eggs. The egg shell is porous enough to permit odors and flavors to pass through and to be absorbed by the egg. A gelatinous substance on the outside of the shell somewhat protects the egg; washing eggs dissolves this substance and increases the absorption. Eggs, therefore, should not be kept near vegetables or other materials having a strong flavor, even in a refrigerator, and certainly not at room temperature in the home pantry or in the retail store. Disregard of these factors is largely responsible for the poor quality of eggs sold in winter and for the prejudice against storage eggs, the mistaken impression being that eggs require no special care except in hot weather. Thus, April eggs properly stored may be superior to those sent to market as "fresh" in November and December, and not refrigerated or otherwise properly cared for.

One legend regarding the custom of coloring Easter eggs tells us that in early times the church forbade the eating of eggs as well as all other animal food during Lent. The hens showed no respect for this mandate and a large number of eggs accumulated. The thrifty people colored them and used them as gifts.

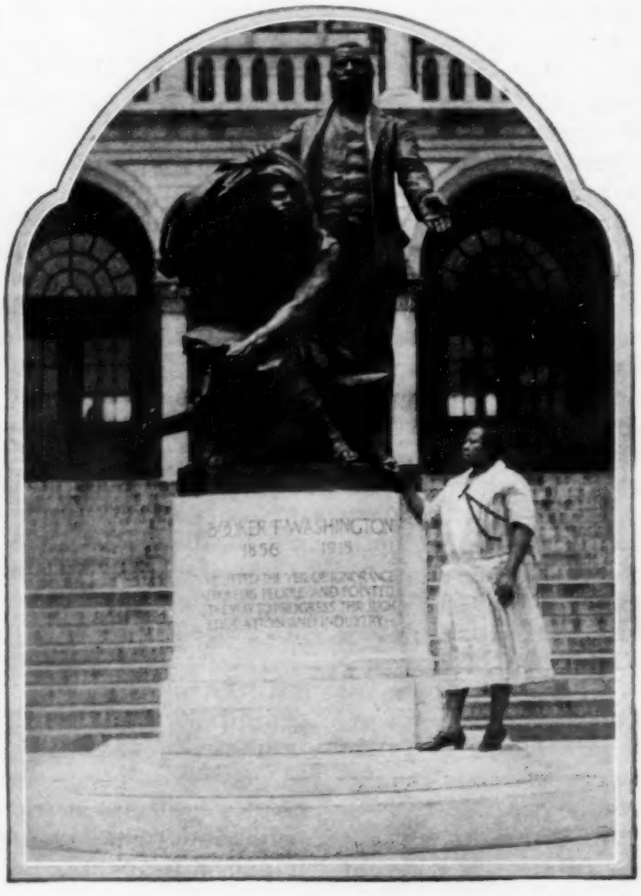
Eggs have been admitted into medical therapeutics for purposes other than food. Egg white is an antidote for mercury poisoning; a paste of egg and salt is effective for insect bites; egg and lemon juice is an old-time remedy for hoarseness and numerous other remedies include egg white or the yolk or the whole egg.

Negroes Will Observe Health Week

THE seventeenth annual observance of National Negro Health Week will take place during the week of April 5 to 12. National Negro Health Week was originated by Booker T. Washington in 1915. Thirty-six agencies and organizations in the United States are cooperating in the movement to further the health of the American Negro.

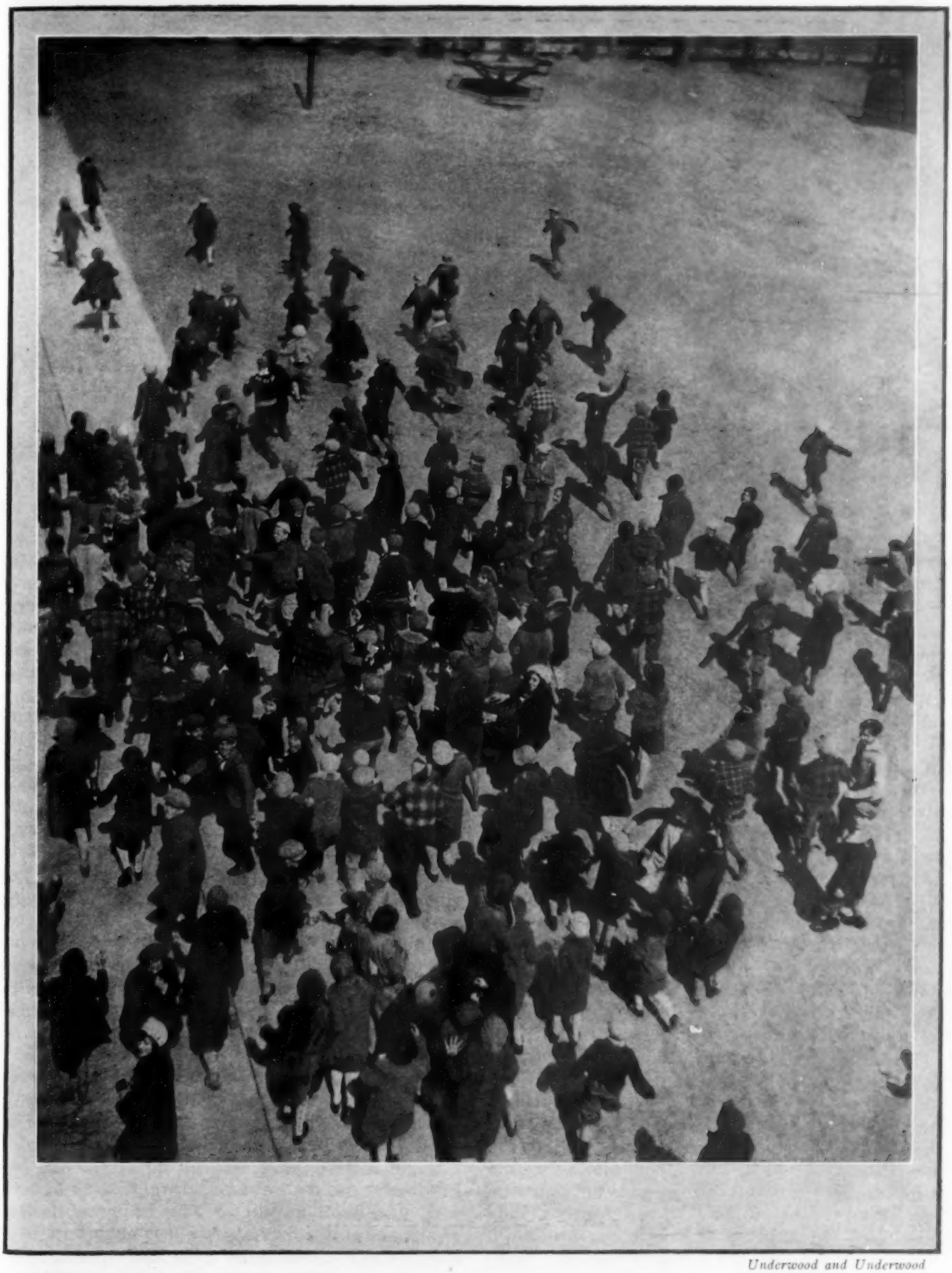
The week opens on Booker T. Washington's birthday, which has been designated by the Negro Health Committee as Mobilization Day. Health sermons are being planned by ministers, emphasizing the maternal and infant welfare programs. Home Health Day is on April 6, followed by Community Sanitation Day, School Health Day, Adult Personal Health Day, General Clean-Up Day, and Report and Round-Up Day.

In sending out the appeal for the first National Negro Health Week, in 1915, Dr. Washington said: Startling facts have been brought out concerning the health of the colored people of the United States. It was shown that 45 per cent of all the deaths among Negroes are preventable and that 450,000 Negroes are seriously ill all the time.



Much has been done to abate these circumstances, yet the Negro death rate still remains high. Health projects for the week should include an investigation of the sanitation in all Negro communities by health departments. The children in the Negro schools should be examined, and prenatal clinics should be organized for the Negro mothers.

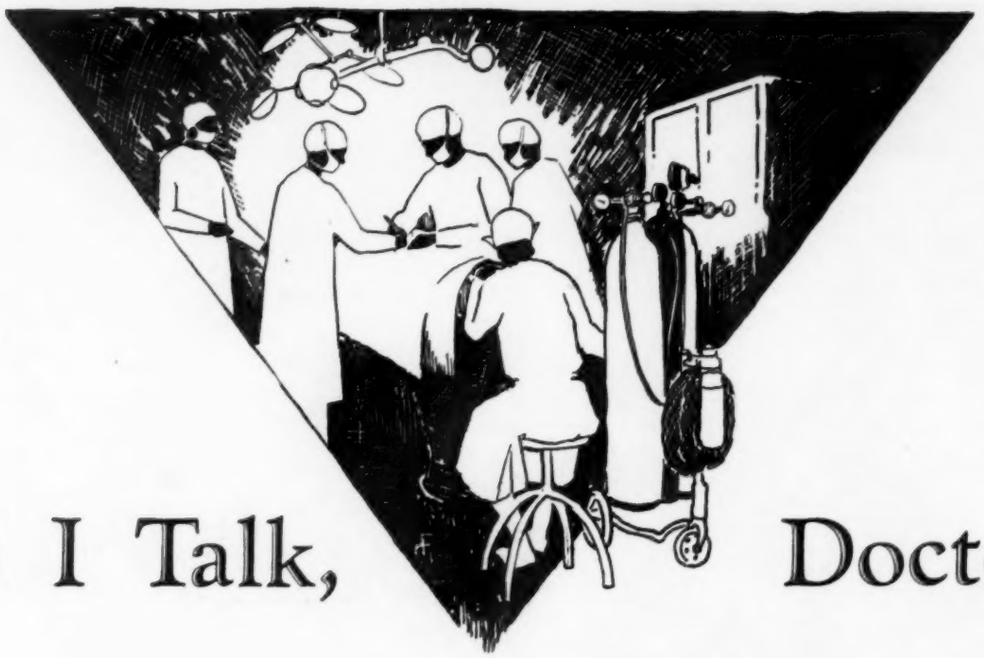
The trophy for the best Negro health program in a rural county has been won for three years by counties in Maryland. The clean-up drive touched 200 homes in the county.



Underwood and Underwood

Let's Keep Them Safe

***SPRING** is returning—the open season for baseball and roller skates. Children dash from the school grounds daily—many of them to play in the street. In one year, 19,000 children in the United States were killed by automobiles. Schools in St. Louis and Detroit reduced accidents 50 per cent when they adopted vigorous safety programs. Safety education is the theme of this month's school department.*



Did I Talk, Doctor?

THE first question a patient asks on recovering consciousness following any operation is likely to be "Did I talk, doctor?" Some persons strenuously object to taking a general anesthetic, even though they are assured that gas-oxygen has no uncomfortable after-effects, for they fear that they will disclose some secret or call out some forbidden name. Still others have heard it said that "one chokes to death with ether." Others fear that it will be impossible to awaken them, that the anesthetist loses control of his patient, and that she sleeps on like the Sleeping Princess without a Prince Charming.

As a matter of fact, taking an anesthetic is not what it used to be. As have other branches of medicine, anesthesia has advanced rapidly. Much work is now done under local anesthesia. When it is desirable that the patient be asleep, however, it is not necessary for him to fear the ordeal as in days gone by. Gas-oxygen has been extensively used as a substitute for ether. Since it is pleasant to take and its effects wear off quickly, it is an ideal anesthetic. With it sleep is more rapidly obtained than with ether. It has none of the cough-producing effects of ether and is therefore used to precede ether when the latter is desired as the final anesthetic agent. A combination of nitrous oxide gas, oxygen and ether vapor is often used throughout a long operation. Much less ether is used, and with such a combination the patient recovers consciousness much sooner.

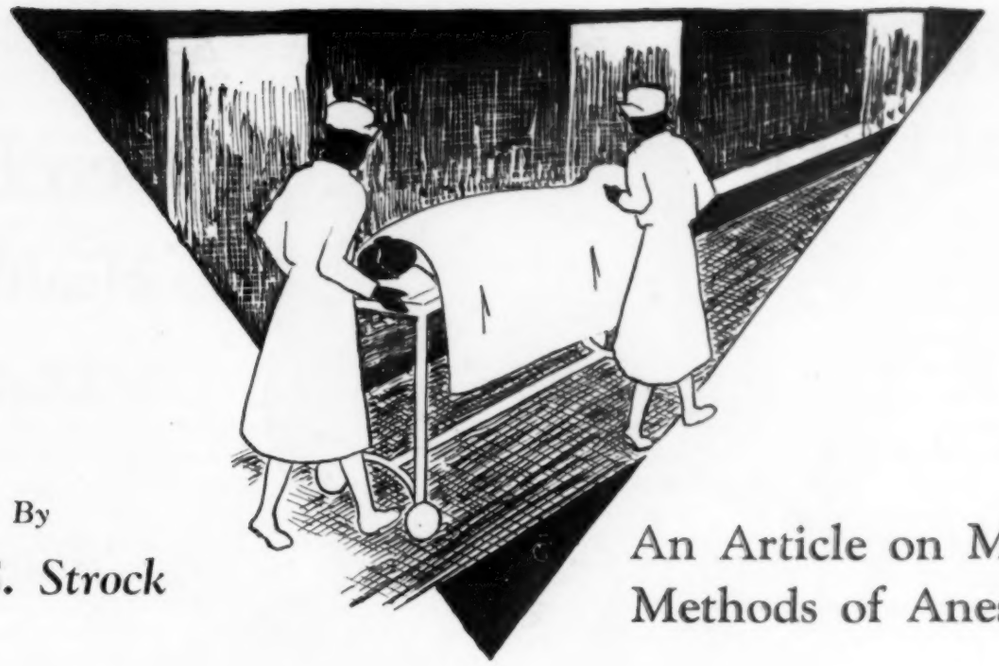
The methods of induction, too, have changed. The old method of a newspaper cone held to the face until the patient is stifled is no more. A light mask, smelling slightly of rubber, is used.

The most important element in the patient's acceptance of the anesthetic is his mental state. In anticipating any sort of operation, it is essential that one go into the operating room in the proper frame of mind. In these turbulent times, it is unusual to find patients completely relaxed, ready to submit to the suggestion of the anesthetist. Occasionally one finds such a patient.

I well remember an old colored lady who came to our clinic for the extraction of a badly abscessed tooth. She had come from home that morning and considerable preparation was necessary until she was finally brought to the operating room. She watched the arrangement of the various items in the room with interest. Finally it was time to apply the covering to her nose. She looked up at the anesthetist. "Are you all ready?" she asked. We were, she was assured. "Then, if you please, I should like a moment to get ready, too." We expected her to leave the operating chair. Instead, we saw her close her eyes and mumble. When she opened her eyes she said quietly but with conviction, "I'm ready," and the operation proceeded.

Those who struggle mentally or physically against an anesthetic are much more tired when they awaken. Some have tremendously exciting dreams, especially if they do not enter into the state of anesthesia in the proper frame of mind. I recall a man who, on waking up, swung both his forearms in short horizontal circles first one way and then another. The movements were vigorous and jerky. I could not understand them until questioning revealed him to be a street car motorman. He had dreamed that his car was running away with him. We had a young man who as he waked up crooned the most beautiful hymns I have ever heard. He was a choir singer.

Physicians attempt, nowadays, to prepare the patient both mentally and physically for the



By

M. S. Strock

An Article on Modern Methods of Anesthesia

operation. First, the patient is asked to enter the hospital on the evening or a day or so before the operation. A good night's rest is helpful.

There is some discussion as to whether one should have a bit to eat before general anesthesia or whether the stomach should be absolutely empty. It is agreed, however, that a general anesthetic should not be given after a full meal. The bowels should be attended to. Some drug is usually given to quiet the nerves and help induce sleep. In fact sleep or "twilight sleep" can be obtained by the use of such drugs alone, and is used for many operations.

Anesthesia is also produced by combinations of drugs. Twilight sleep (scopolamine-morphine anesthesia) may be combined with local anesthesia, or several drugs may be employed to produce twilight sleep or even general anesthesia. Ether, nitrous oxide and ethylene are used with oxygen and carbon dioxide. The last named is one of the newer gases used. It has helped do away with some of the unpleasantness of ether recovery.

Nitrous oxide and oxygen should be used more than it really is. It would be if patients were educated to its advantages and were not afraid to take it the first time. Many patients refuse to have a local anesthetic under any circumstances. One such young man has extremely sensitive teeth but he objects strenuously to "the needle." On several occasions I have given him gas in cooperation with the dentist who fills his teeth. Each time, in being anesthetized, this young man rocked the walls with a "Wa-Who-Wa" that gave unmistakable evidence of why Dartmouth men outcheer other colleges. This outburst was an unusual response to analgesia and was somewhat disconcerting. The method of inducing light anesthesia for relieving pain has been used by a few dentists for many years. With patience and in the hands of men who have mastered the technic and have the confidence and cooperation of their patient, it is very useful.

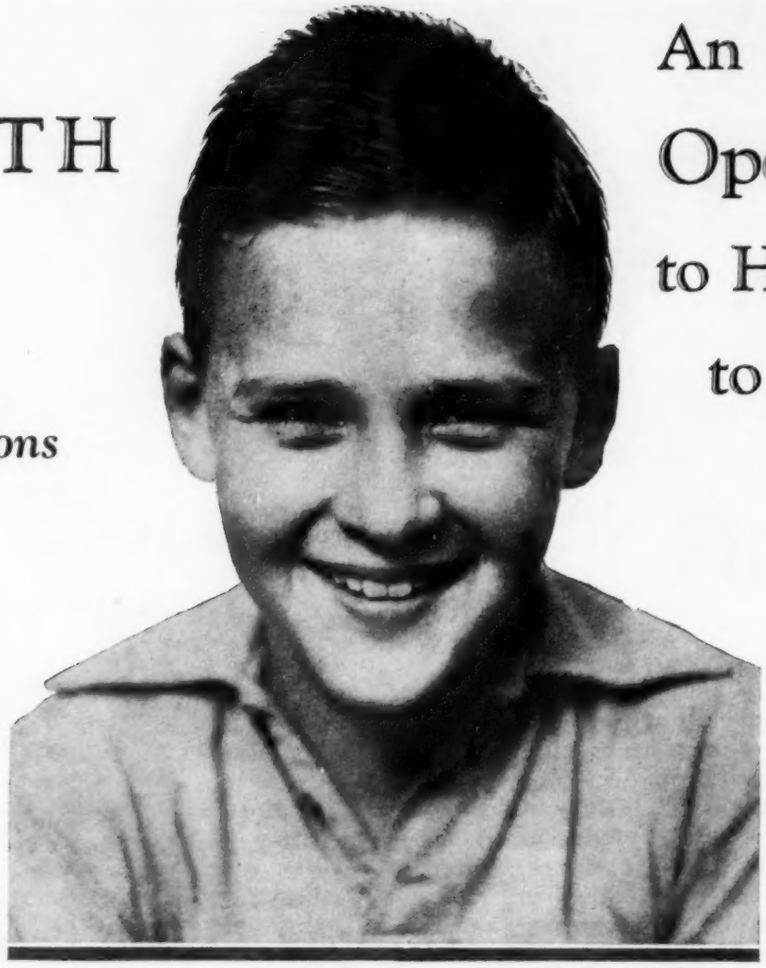
Ether in combination with other gases is not unpleasant to take. Recovery is the trying part of the episode. Several procedures help a patient recover from the effects of a long operation under ether. The most extensively used is probably the provision of fluid for the body. We perspire freely during an operation and frequently the loss of water is considerable. Water is provided to offset this loss.

Local anesthesia has become more and more popular, and in late years it is more widely used for longer and more serious operations. The choice of the anesthetic agent should be left to the surgeon. He sometimes, especially in minor operations, asks for the patient's preference in the matter. The patient should take into consideration his own temperament. If he feels he is not capable of relaxing and making light of the affairs about him, he should express his preference for going to sleep. Of course in some operations it is a distinct advantage to the surgeon for the patient to be awake. Patients who are awake and cooperative lighten the burden of the surgeon and consequently make for a successful operation. Patients must have confidence in the operator's skill and in the ability of the agent to produce anesthesia. It is amazing that even at this date the public does not realize the power of novocain and like products to prohibit pain.

The important thing then in taking an anesthetic is to make up one's mind to it. Facing the situation with courage, many arrive at the conclusion, "It wasn't half bad, after all!"

The MOUTH An Open Road to Health and to Disease

By
Don C. Lyons



H. Armstrong Roberts

Keep the teeth clean. If you won't eat off dirty dishes, don't eat with dirty teeth.

THE care of the mouth and teeth is not a complicated procedure under natural conditions, but it is an important part of daily routine if the teeth are to be preserved for a lifetime. It has often been said that 95 per cent of the care of the teeth rests with the individual and only 5 per cent with the dentists, yet many persons come to the dentist every year for a cleaning of the teeth and fillings, after which they forget about their teeth entirely until an ache reminds them. That sort of person is likely to lose all his teeth in early life.

Hygiene of the mouth should be promoted by at least four measures: (1) daily cleansing of teeth and mouth tissues; (2) massage of gum tissues; (3) proper diet, and (4) exercise of the teeth.

These measures succeed best when there is a natural equipment of solid sound teeth, teeth that are straight, well formed and healthy.

The lifetime of the teeth is more or less decided before birth. Many of the permanent teeth and every one of the deciduous teeth begin their growth before birth. The health of the mother determines the health of the newborn baby and the teeth are an important part of prenatal development.

Throughout childhood the teeth are erupting and going to work. If they come into a well developed mouth in which the tissues are strong and healthy, they have a good start along the proper road. During this period, diet, health, exercise and daily care play an important part.

It is not sufficient to clean the teeth once a day. It might be, if our food were of the type that scours the teeth and leaves the spaces between them free from débris.

The teeth should be cleaned upon rising, after breakfast, after lunch, after dinner and before retiring, if possible. This is not usually done, nor is it practical in many cases. One might compare the cleaning of the teeth to the need of washing the dishes one has used for food. If one is willing to eat from dirty dishes with remains of previous meals on them, there is certainly no need to go to the trouble of cleaning the teeth.

The first item in the hygiene of the mouth is brushing the teeth. Brushing is necessary in order to remove food débris and to break up bacterial colonies or plaques that have accumulated on the teeth. The teeth must be brushed and not scrubbed. The method used must insure the reaching of every surface of every tooth and the polishing of it to a glistening and attractive cleanliness.

The following method of brushing the teeth is generally accepted:

The brush is placed with the bristles pointing upward and lying on the gum tissue, then is

brought downward in sweeping strokes. The brush is then replaced and the process repeated until the particular area is thoroughly cleaned. The brush should be placed along the molar teeth first and slowly worked forward toward the front of the mouth; it should be repeated on both sides and then on the insides of the teeth. The lower teeth are brushed exactly like the upper except that there is a reversal of the sweeping strokes. The brush should be carefully placed at all times, as many times the gums are injured by improperly placed brushes. The brush should be placed endwise when the lingual side (tongue side) of the anterior teeth is brushed so that the bristles will reach all surfaces and not be held away by the curves of the teeth or by their position.

The right kind of brush for a child.

The brush must never be drawn over the teeth in such a way as to force the bristles between the gum tissues and the tooth surface at the so-called free margin. This can be avoided by starting the brush on the gums and always sweeping toward the top of the teeth. The term "sweeping" exactly expresses the correct way of brushing the teeth, for food débris must be swept from between them.

After the sides of the teeth have been brushed, the grooves, or fissures, in the tops of the occlusal surfaces of the teeth must be cleaned. The brush must be held firmly against the teeth and with a rotary motion the bristles are forced down into the grooves.

The selection of a cleansing agent is next. Different types of teeth and mouths require different types of dentifrices. The person with crooked teeth naturally has spaces that are harder to reach with a brush than has the person with straight teeth. Soapy dentifrices are needed to reach such spaces, or dentifrices that produce a great deal of foam.

Some mouths and teeth require a paste that is more abrasive and will perhaps remove some stain, while a dentifrice that is purely a polisher may be the best for others. At no time should dentifrices be used that contain powerful drugs as antiseptics or astringents. It is doubtful if any tooth paste can have antiseptic action on the teeth and on the bacterial content of the mouth, for it is in the mouth only a short time and is greatly diluted. A drug powerful enough to kill bacteria would also injure the tissues of the mouth. A great deal of harm can be done to the teeth and the oral mucosa by depending on dentifrices to act as medicines. One should never forget that a tooth paste has only one place in the hygiene of the mouth and that is to clean, just as soap cleanses the hands. Tooth pastes that are to be used by little children must be selected with care. They should be soapy and at the same time they should be pleasant tasting. The child will do things he likes to do without urging. It is better to supply him with a dentifrice that is so pleasant that he will like to clean his teeth. The tooth paste selected must be one that is harmless if swallowed. Color is also to be considered. A pink tooth paste is usually more attractive to a child than a plain white one.

The brush must fit the mouth. It is useless even for an adult to brush the teeth with a brush so large that it only hits the high spots. A small brush is better for the average mouth. The bristles should be tough and springy and they should be placed in tufts far enough apart so that there is some space left between them.

H. Armstrong Roberts

Although this baby has not cut his first teeth, his second set is already partly developed.

After the mouth has been cleaned by brushing, it should be flushed out with a wash. A thorough rinsing with water or saline solution is often all that is needed. When there is some infection or an unpleasant odor in the mouth, a mild antiseptic may be used. In any case, mouth washes should be used only when prescribed by a dentist. Those persons who do not obtain the dentist's advice are likely to place too much faith in some patented mouth wash with widely advertised flamboyant claims. The result is that when they discover that they have been chasing rainbows, it is often too late to repair the damage that already has been done in the mouth.

The tooth brush will massage the gums if the teeth are properly brushed and if the bristles are stiff and hard. Massage of the gums is necessary in this day of soft foods. If the gums have been neglected long enough to cause a relaxation of the fibers around the necks of the teeth with the development of a stasis of the blood in that region, massage is needed more than ever to eliminate the stasis and to stimulate a normal flow of blood through the capillaries. Besides massage with the tooth brush, it is often advisable to rub the gums with a vigorous rotating movement of the finger covered with a pad of surgical gauze.

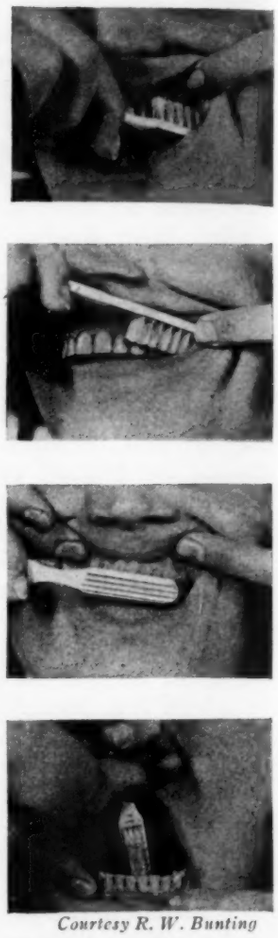
Underwood and Underwood

Girl students in dental hygiene practice cleaning teeth in dummy mouths.

Diet has a great influence on the condition of the teeth. Food must be eaten that contains mineral salts and also vitamins of the right sort to make the mineral salts of use to the teeth. The type of food also has an influence on the condition of the gums, either stimulating their normal activity or producing disease of the gums.

Uncivilized tribes and persons who live close to nature eat food much as nature prepares it for them. This means that the food is tough, fibrous and coarse, and must be vigorously chewed. McCollum examined about 200 skulls found in the ruins of the old cliff dwellings of the Southwest. Not a single carious tooth was found. Steffanson found ninety-six skulls in Iceland of people of early days and not a single decayed tooth was found.

Hard breads, toasts, fibrous vegetables, tougher cuts of meat, and fruits with a tough pulp should be added to the diet for cleaning and massaging the teeth and gums, as well as for their food value.



Courtesy R. W. Bunting

The different steps in of brushing

Closely allied to diet is exercise of the teeth. Many of our meals consist of foods so soft that teeth are not really needed. The teeth and gums are like any other part of the body, unless they are constantly exercised they will lose their firmness and vigor. The development of pyorrhea and other gum diseases soon follows.

Vigorous chewing of rough foods stimulates blood activity. It stimulates growth and development along with the normal functions of the muscles of the throat, tongue and face. It reduces the production of fat overlying the muscles of the lower part of the face and keeps the skin in tone. The development of the nasal chamber, the septum of the nose and surrounding tissues is dependent on the growth of the bones of the roof of the mouth. The chain of the results from a lack of exercise of the structures of the mouth is more or less endless.

There is a certain amount of normal abrasion to the teeth as the years go along, as a result of the constant grinding of the tooth surfaces. The remains of early peoples who lived on hard foods show the teeth worn down but not decayed. Men who chew tobacco and those who grind their teeth during sleep cause a rapid destruction of the crowns of the teeth. Improper brushing with coarse, scratchy dentifrices produces grooves in the surfaces of the teeth. Smok-

the correct method the teeth.

ers of hard stemmed pipes often find in the course of years that there develops an abrasion in the occlusion of the teeth that fits the pipe stem. These abraded teeth are often sensitive and exposures of the pulp are not uncommon.

An important item in the care of the mouth is the prevention of decay; in fact, that is why we take care of our teeth. Prevention of the extension of small decayed spots is extremely important. Infection cannot enter the pulp of a tooth through a tooth wall that is sound. Periodic examination of the mouth is the only sure way of preventing the small cavity from becoming a large one.

At least 90 per cent of cases of bad breath have their origin in the mouth. Dr. Prinz classifies eight causes for an offensive breath. They are: (1) causes arising from purely dental conditions, such as may exist around the teeth or restorations; (2) causes arising from diseases of the soft tissues, such as pyorrhea and trench mouth; (3) causes arising from disease or abnormalities of the nose, throat and sinuses; (4) causes arising from digestive disturbances and the digestive tract; (5) causes arising from bronchopulmonary disease; (6) causes arising from certain metabolic, infectious, febrile and genito-urinary diseases; (7) causes arising from the presence of absorbed drugs and poisons, and (8) causes arising from the presence of foods, condiments and stimulants.

As far back in the centuries as 79 A. D., Pliny said in his Natural History, "Man's breath becomes infected by the bad quality of food." Even to this day we can add little to this original diagnosis if we take it for what it means.

There are supposed to be six fundamental odors—spicy, flowery, fruity, resinous, burnt and foul; but the breath should not have any noticeable odor if it is normal.

One might classify the causes of offensive breath further into those that are caused by purely dental disorders and those that are not. The most frequent cause in the mouth is simply the fermentation or stagnation of food débris that has remained in and around the teeth. Many of the foods we eat today are not cleansing but stick between the teeth, under bridge work, and around other dental restorations.

The remains of carbohydrate foods, such as bread and potatoes, ferment into fatty acid compounds such as oxybutyric acid, which is not dissimilar in odor to rancid butter, and into diacetic, lactic and propionic acids, all substances with bad odors. Albumin, best known as the white of egg, and proteins, which most of us known as meat, decay into odors all their own.

In mouths in which there are rough teeth, tartar deposits on the teeth particularly below the gum margins, overhanging fillings, decayed spots on the teeth, root stubs, abscessed teeth and pyorrhea pockets, a bad breath can be expected. A bad taste in the mouth, the only sign many people have of a bad breath, should not be neglected.

Artificial teeth in bridges and crowns are more likely to become covered with a sticky plaque of mucin than are live healthy teeth, and for that reason persons with such restorations in their mouth should take more than ordinary care. Plates and dentures made of rubber are more or less porous and food odors quickly accumulate on them unless they are thoroughly cleansed several times during the day.

Herbert Photos

Arab boys are introduced to mouth hygiene.

All types of gum disease whether or not they form pus are productive of bad breath. Diseased tonsils and adenoids are offenders.

The cure of a bad breath, as one can now see, does not lie in taking some sweet smelling tablet or mouth wash but in removing the causes. Regular use of a tooth brush and daily dental hygiene will do much to eliminate wrong mouth conditions, and the maintenance of a healthy body will remove other possible causes.

One realizes the importance of the care of the mouth when it is considered the gateway to the body. It may be an open road to health or to disease.

Balancing on the toes, inspired by a painting on a Grecian vase.

Dancing Mothers

By Marguerite Agniel

THE instinct for beauty is one of the deepest in human nature. It is a universal desire. Artists, poets and idealists seek it with relentless enthusiasm. Children and primitive peoples unconsciously find an outlet for their love of beauty in drawing pictures and the movements of the dance. If this instinctive form of expression were directed and encouraged by parents, children would have an asset that would last them all their lives.

Children are sent to dancing schools as a matter of course and are often criticized by their parents because they have no inclination to "show off" before company. I do not mean to decry dancing in its sense of showmanship but rather to emphasize the importance of dancing in relation to health and daily life. If mothers were also trained in dancing, instead of expecting their children to entertain them, they could entertain one another in this highly beneficial form of exercise.

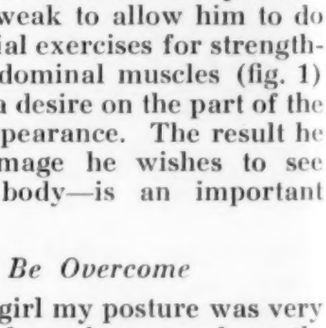
Mothers Should Set Example

Many mothers turn their children over to dancing and health instructors while they attend classes in child psychology. They more or less take it for granted that the dancing and health teachers are good examples of what they recommend to others. Is it not desirable that the parents with whom the child spends most of his time should also qualify in this respect? If parents enjoy abounding health they naturally and unconsciously stimulate healthful attitudes and practices in their children.

Suppose your child has acquired the bad habit of stooping when he stands and walks. Telling him to "stand tall" when you yourself may never have acquired a correct posture is going to do little good. The popular conception of standing straight consists of stiffening the back like a ramrod, holding the shoulders back, curving the spine in at the waist and throwing the buttocks out. Whereas, the body should be straightened by strengthening the trunk muscles, drawing the abdomen upward, throwing out the chest and tucking in the buttocks. If this is done the shoulders will take care of themselves. But a child cannot be expected to retain this position if his muscles are too weak to allow him to do so. There must be special exercises for strengthening the back and abdominal muscles (fig. 1) and there must also be a desire on the part of the child to improve his appearance. The result he is working for—the image he wishes to see created in his own body—is an important factor.

Defects May Be Overcome

When I was a young girl my posture was very bad, partly because of weakness and partly because, being taller than my friends, I had acquired the bad habit of stooping in an effort to make myself less conspicuous. Of course I did not succeed in this, but merely brought attention to myself because of the awkward appearance I presented. In the generation before mine, children wore shoulder braces to correct round shoulders and when my mother suggested that I would have to straighten up or wear a harness, I straightened up. Eventually my good carriage instead of my bad carriage caused comment among the neighbors.



True grace is largely a matter of balance.

Recalling my own physical and mental problems during the

and Dancing Daughters

COOPERATIVE EXERCISES FOR PARENT AND CHILD

An exercise for achieving coordination in walking.

trying period of adolescence has helped me in the understanding of cases of children similarly handicapped. My little niece, whose pictures illustrate this article, developed a number of physical defects, including a bad case of bowlegs, to say nothing of disproportionately long feet and misshapen toes. Later, she developed an artist's strong love for the beautiful, which drove her to try to express herself in dancing. Combined with her desire to dance was an unusually sensitive attitude toward the defects which seemed insurmountable at the time. This created a conflict in her mind, making her self-conscious every time she thought of them. This was not surprising for, anxious as I was to encourage her in dancing, it even stretched my imagination to visualize a realization of her ambitions, as her clumsy attempts in the beginning were anything but indications of talent. But her spirit for the dance, combined with my attempts to understand her longings, has resulted in her becoming a beautiful little dancer, and the practice of specific exercises have brought almost complete elimination of her former physical deficiencies. The simple movements I gave her in the beginning, she has developed into breath-taking feats, which she now generously offers to teach me. Such a spirit of comradely competition between an older person and a child is bound to have good results.

Sense of Rhythm Is Instinctive

All children dance literally from the time they are born. Often one feels and sees the rhythm as a baby is swung in the air by his mother or as he jumps up and down in his crib. Babies unconsciously want to stretch themselves, to move about and balance themselves, and the sooner they can be helped to form constructive movements the better. These can be stimulated in play with children as well as with parents.

Exercises can be worked out spontaneously in connection with games. If their movements are thus informed with a purpose—for instance, the suggestion that they imitate some animal or make a design with their bodies—their efforts are so concentrated around the game idea that they are unconscious of the beneficial effect the movements may have on their health. This is an important point, as too much emphasis on the health side may arouse antagonism and indifference toward the lesson. We are all children in rebelling against things just because they happen to be good for us. So if exercises are presented in the form of games or dances, children will weave rhythmic patterns unconsciously with much more satisfaction to themselves and to those watching them. From this it is just a step to dancing, for what is dancing but rhythmic exercises to develop coordination of mind and body?

Naturalness Is Often Acquired

It is generally admitted that children are "unconsciously natural." Tautological as this phrase may appear, it really means something, for "naturalness" is often a consciously acquired habit. Under truly natural conditions, the laws of balance and rhythm are able to assert themselves without being known or understood by those who express them. Under more artificial conditions, however, these laws must be studied as the alphabet of all physical training, carefully practiced and rigidly adhered to. If one does a thing consciously over and over again, it finally becomes automatic or natural. But if a thing is instinctively right, it never loses its instinctive rightness, even with the acquisition of a conscious technic. Each movement is so correct and true that it is a complete entity in itself, and it remains an indispensable part of the whole. In the words of Samuel Butler, "We

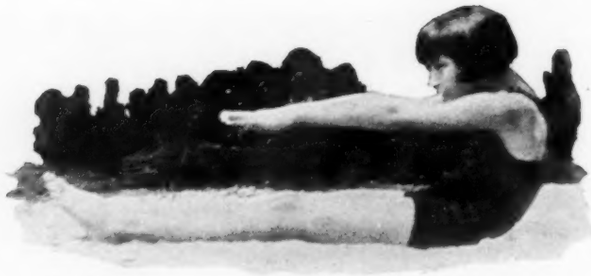


Fig. 1

Fig. 2

Fig. 3

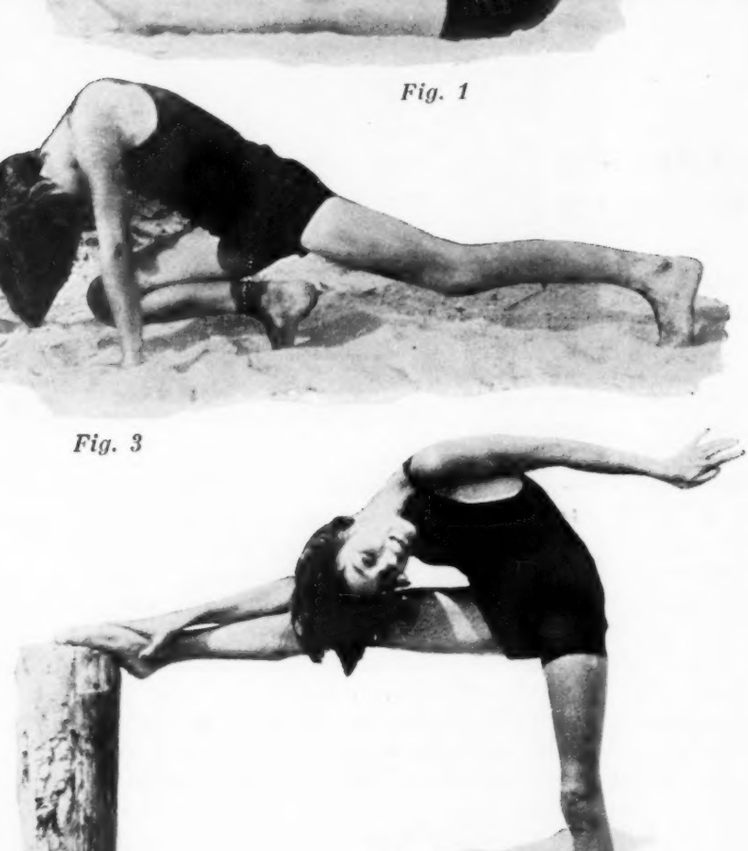


Fig. 5

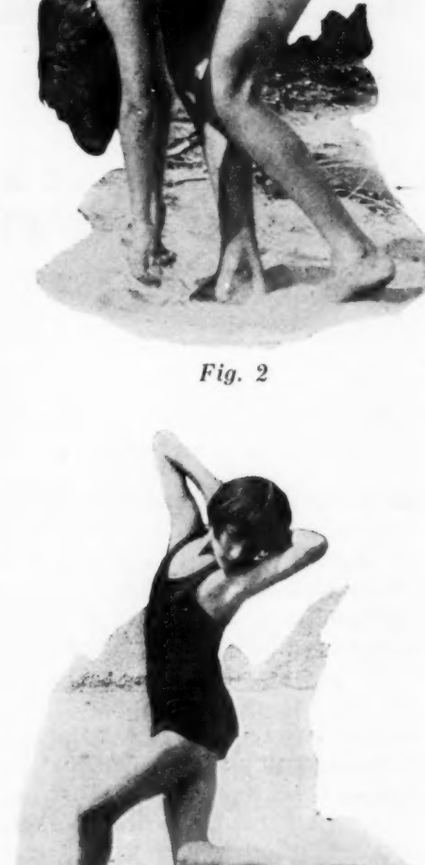


Fig. 4

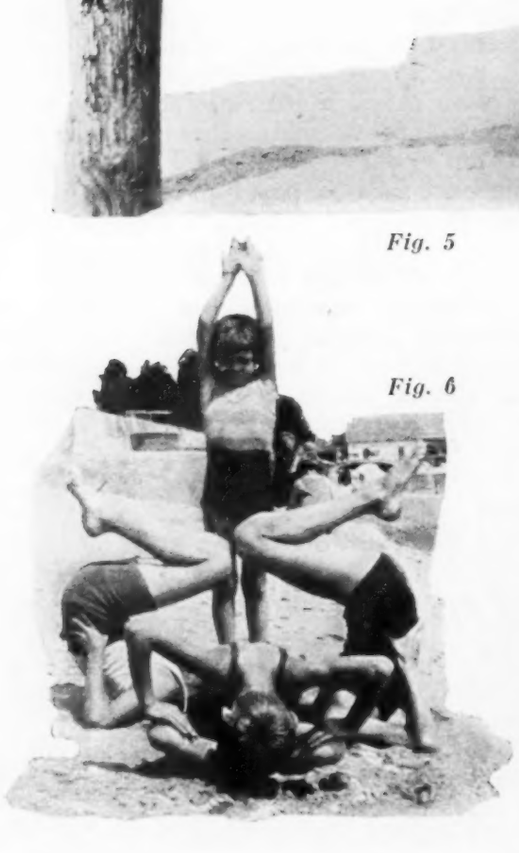


Fig. 6

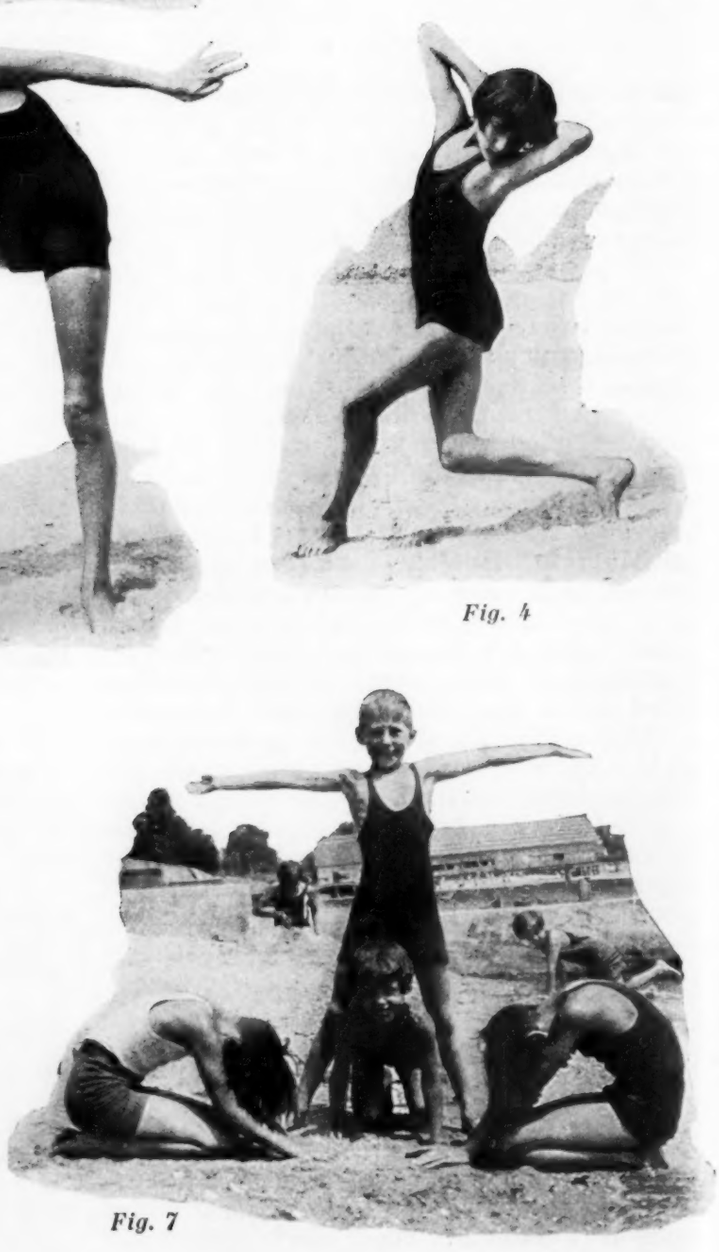


Fig. 7

come therefore to the conclusion that our knowledge and reasonings thereupon, only become perfect, assured, unhesitating, when they become automatic, and are thus exercised without conscious effort of the mind much in the same way that we cannot walk nor read nor write perfectly, till we can do so automatically."

The ritual of the dance is probably as old as man. The earliest forms of dancing as we know it were probably practiced by the Egyptians. To the Greeks the dance was a cult, an element in the religious and physical well-being of the person and the state. They deified the human body, not only as a thing of beauty in itself but as an expression of the beautiful in action and in gesture. To them there was no distinction between body and soul, as in the Christian or Occidental belief, but all was a glorious unity. Their public interest in athletics and in the physical development of the race is well known. Not merely the achievements of competitors in athletic games and contests were taken into account, but also grace and style.

Solon describes the training of the young Greeks to a skeptical Scythian: "And as to their bodies, I will show you how we exercise them. In the first place as soon as they are able to bear it, we strip them naked, to use them to the open air and to harden them to all kinds of weather . . . and we anoint them with oil. . . . We hold that those who are kept in constant exercise will make the best soldiers." The value of all this for a national sculpture is apparent.

How Early Greeks Were Trained

The two most important things with which the Greek child began his training were the stretching and strengthening of his muscles, which prepared him for the maximum amount of activity, and the mastering of the laws of balance, which enables that activity to be controlled with the minimum expenditure of force. The feet, being the most important factor in balance, received careful training. Children were taught how to stand, how to sit and how to walk correctly. In the British Museum there is a vase painting showing a small child advancing unsteadily toward his mother who is some distance in front holding out her hands to receive him, while behind him is a trainer with a long stick indicating the straight line the child is supposed to follow. Countless other paintings show figures balancing on the balls of their feet while pipers furnish the music for their dances. In view of the unrivalled physical development of the early Greeks, it would seem logical to train our children in these fundamentals of movement to which they attached so much importance.

We can begin with the walk. Because of the predominance of figures moving on the balls of their feet, many persons have interpreted this as an indication that the Greeks stepped with their toes first in walking. Of course every physical trainer has his own pet theory of how to walk, but as I understand it, the Greek idea in practicing these special movements of the feet was to give that sense of lightness and flying that is expressed in nearly all antique representations of movement. But in his walk, the Greek probably put his heel down first, as most of us do naturally, but so lightly that the action of the heel and toes appears to be almost simultaneous. As a pattern for this type of walking we get a good example in the American Indian. To go even further back, imitations of animals in our practice for coordination in walking provide valuable material for study.

Child Enjoys Imitating Animals

In correcting faults of posture in your children, you can explain the difficulties that arose as a result of man walking on two legs instead of four, the salient feature being the tendency of organs to sag down, which they will if the muscles are not strong enough to hold them in place. Also you may explain why it is a healthful practice to perform exercises in the all-four position as the body does not then have to work against the force of gravity, as it does in the upright position. Have the children take particular notice of how different animals walk, particularly the lithe grace of the tiger and panther, and show them how they can adapt these movements to their own bodies. Or, if you have not time to go to the zoo, have them study the cat, for when it comes to graceful movements he is an artist!

The spine exercise (fig. 2) is derived from the movement of a cat humping his back in a bow. The idea of the exercise is to get the free movement of the spine so thoroughly in your consciousness that the danger of stiffening up in ramrod fashion when you walk is practically impossible. It also involves a pulling up of the abdominal muscles as you slowly unfold to a standing position. When you finish the movement you will find yourself in an easy standing pose without any strain or effort. Be careful not to sway the body backward when you reach the upright position, and let the head be lifted by the action of the spine unfolding. Do not lift with the neck muscles before the complete unfolding of the spine is achieved. Now droop the body forward again, with the knees relaxed, one foot placed in front of the other (as in the figure) and simultaneously take a step with the other foot—heel first, then middle of foot, then toes following as a natural lever with the weight thrown slightly to the outside of the feet. Keep the toes pointed straight ahead with the feet parallel. Try to feel the feet moving in sections, as if they had proud entities of their own and were not just poor scared prisoners afraid to express themselves in the light of day. Continue this drooping and unfolding as you slowly

move around the room, making the spine exercise smaller each time and eventually stop doing it altogether, but try to remember the elasticity of the spine that you experienced while doing the exercise and embody this in your natural walk. In addition to helping you to coordinate your walk, this exercise will rest tired backs and soothe tired nerves.

The panther crawl (fig. 3) is another good exercise to practice in conjunction with the spine exercise because it helps to limber up the body and is a splendid practice for coordination and balance. It is an amusing exercise and can be done by the whole family with benefit.

The carriage of the head is an important adjunct to a graceful walk. It should follow in line with the general feeling of lightness and poise. A head that is thrust too far forward gives a bad line. This is often due to a hurried or nervous feeling and reveals a too tense attitude toward life. A drooping head indicates indifference and apathy and lack of effort to change this point of view. Above all, you should avoid carrying the head too high as it gives a strained, reined-up appearance. Carelessness and psychologic factors have as much to do with a faulty carriage of the head as insufficient muscular development of the neck. Special exercises for strengthening the neck are often useful to correct these defects, but for the most part the best head movements are those taken with body movements. It is necessary that the neck muscles be strong enough to hold the head at the best angle, but when proper balance is attained, unless there is some definite weakness, the neck has a tendency to follow the general line of grace that is achieved simultaneously with a graceful walk.

Carrying books or balancing pans of water on the head are good exercises to make the head do its part in connection with the rest of the body. Women burden-bearers in foreign countries, notably in southern Spain, achieve a superb carriage, as a result of centuries of carrying pitchers and bundles on the head.

All feats of balance, such as standing on the toes (fig. 4) and moving other parts of the body while in this position, will help to contribute to the grace and poise of the figure. True grace, particularly in walking, is largely a matter of balance. This also applies to sitting postures, which are important, particularly in relation to children, since sitting habits are largely formed in schools during the plastic period of growth.

Sitting Habits May Need Revising

A consideration of sitting habits and of school seating facilities should be of interest to every mother. Unfortunately makers of furniture do not always realize that chairs and school seats should be constructed with reference to the human body. Assuming that one is sitting in a normally constructed chair, one should sit easily erect with the hips far enough back on the seat of the chair to comfortably fill the right angle of the back and seat without straining to do so. Unless one strains unnaturally to curve in at the waist line, the hips normally come out far enough from the back of the chair to allow for a little backward movement. Hold the abdomen in as you sit. Keep the shoulders back and the chest out. This does not mean that you are to hold yourself stiffly or self-consciously.

The main thing to guard against is sitting on the end of the spine with the body slouching forward in a sprawl. A prominent abdomen is cultivated by this attitude, and the vital organs are crowded on top of one another; this creates an astonishing number of cases of bad health, especially among growing girls. Careless modes of sitting can also cause curvature of the spine.

Stretching Exercises Help Restore Symmetry

If you notice this discrepancy in the shoulder or hips, after revising your sitting habits, it will help to stretch the side of the body that is lowest. This can be accomplished in various ways. Standing flat on the feet and stretching the arm of the low side far above the head, so that you feel a good long stretch of the muscles in one method. Another is to sit on the floor, spreading your feet out as far apart as possible. If it is the right side that is lower, bend your head down to your left knee. Or balance the right leg on some object about waist height (fig. 5) and bend the body down toward the leg, trying to touch the head to the right knee if it is the left side that is lower. At first, adults may not be able to bend more than half-way down, but if they persist, they will be able to go all the way. This is not difficult for children.

A youthful body is the desire of all women. They see how naturally children keep their bodies active. Why do they not do the same things? As an example of the interest children take in exercises when they are presented as a game or design, the children who appear in the group photographs illustrating this article looked on so wistfully while I was photographing my little niece that I could not resist asking them to join us. They gleefully responded, catching the spirit of the idea I was trying to present. Their instinct for the design and the dramatization of the characters in the picture was unerring. "Who wants to be a cat?" "Who can imitate a crab" were questions that they answered immediately by arranging themselves in imitation of the animal they thought they were best qualified to represent (figs. 6 and 7).

Adults can do these exercises too. An interest in the subject is the main essential and one of the best ways to get this is to practice with your children. Competition with an older person or with other children gives a child an incentive and a sense of achievement that help to bring results in any task.

Those GLASSES We Wear

By

Fassett Edwards

All photos courtesy American Optical Company

One of the earliest optical shops.

BEFORE starting to stir the old typewriter with these thoughts about glasses, I tried to estimate how far back I ought to delve into the dim and dusty regions of the past. The effect was startling. There is considerable evidence that civilizations existing prior to those about which we have more or less knowledge may have known of lenses. Spectacles seem to be of comparatively modern origin, but it is not far-fetched to think that the Atlanteans, living 22,000 years prior to the Christian era, knew of lenses. Some shrewd scientists have arrived at that conclusion.

A worthy Englishman of title dug about in the ruins of ancient Ninevah years ago, and wrote a highly entertaining book about it, in which he described a number of highly valuable finds, two of which are of particular interest to us now.

Transparent Glass 2,600 Years Old

He discovered the oldest known piece of transparent glass, and, wonder of wonders, his discovery bore a dated inscription in beautiful, angular, cuneiform (wedge-shaped) characters, a silent, powerful message from the remote period of 2,600 years ago. Egypt, of hoary wisdom and splendor, was but a mere thousand years behind in the race to furnish the world with transparent glass. Opaque glass had been made prior to 1500 B.C., but Egyptians apparently did not then know how to produce clear glass.

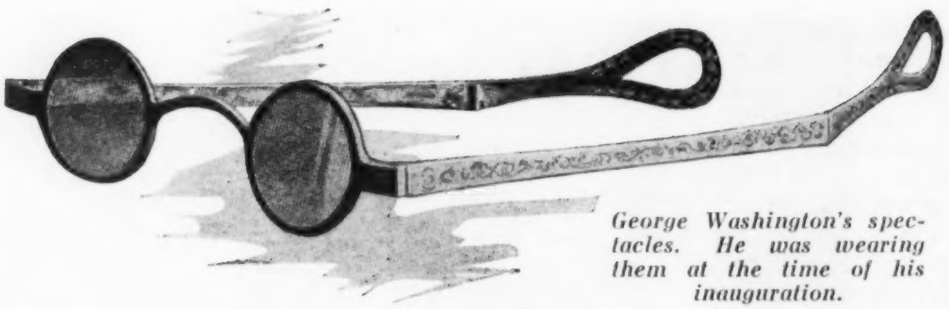
However, the ancients had no pressing demand for glass from which to make their lenses for they had right at hand much better material in plenty—rock crystal. The second wonderful find of the archeologists at Ninevah, was a lens made of rock crystal. It was quite a large lens, 1½ inches in diameter, and there was a fairly clear focus through it at about 4½ inches. Its surface was still well polished, despite its great age. Apparently, it had been made by some cutter of gems; nobody else would be equipped for such work.

Ancients Used Lenses in Carving

Additional proof exists that the ancient Babylonians used lenses. There now exist record cylinders from Ninevah, as well as engraved gems and stones from Egypt, Babylon and other sources, dating back to long before the Christian era, on which records and lines have been cut that are much too fine ever to have been made without the aid of magnifying lenses. Those old Assyrians and Egyptians surely had some optical aid in making such carvings, now illegible to the unaided eye because of their almost microscopic fineness.

It is a matter of common knowledge that our old-time friend who fiddled while the fires were burning in his native town was nearsighted. That quaint chronicler Pliny definitely says that Nero winked and blinked and brought objects close to his eyes in order to see them. Also this Roman emperor used a lens made of a great emerald, through which he was wont to gaze on the savage inhumanities of the gladitorial fights. Thus came into use probably the first anti-glare glass ever used. Incidentally, Pliny manifests much knowledge of the properties of various sorts of lenses and explains clearly their uses, which are quite in accord with our present information.

The knowledge of optical lenses seems to have come down to the Arabians by direct contact with the ancient Assyrians; the Arabian writers who gave us the earliest information



George Washington's spectacles. He was wearing them at the time of his inauguration.

about lenses and the eyes lived within 500 miles of the spot where the English explorer uncovered the earliest known lens.

Surely it is not a wild flight of the imagination to believe that this art was not lost, but that it was carried down to the much later Arabian writers—particularly to Alhazen, the Saracen, who wrote highly accurate treatises on optical subjects, which were our first eye books. Alhazen died in Cairo in 1038, A.D., and two of his manuscripts still exist in Europe. They even present some of the diagrams that we use in our modern textbooks, to show the course of light rays.

Then there followed a long period in which men stumbled about in optical darkness, as well as in darkness of other sorts—the period well named the Dark Ages. For a dozen centuries after the birth of Christ, Europe knew nothing about lenses. Then some inquisitive person dug up those old Arabic works on the eye and light and lenses, translated them, and something seemed to quicken in the scientific world of that period.

Roger Bacon, fine old pioneer scientist, seems to have been the first man during the Dark Ages to produce a lens. He died in 1292, and we must assume that he brought out his device prior to that unhappy date. It is presumed that it was about the year 1280 when Bacon made a lens to be held in the hand, as we use our present reading glass. He naively writes: "This instrument is useful to old men and to those that have weak eyes; for they may see the smallest letters magnified."

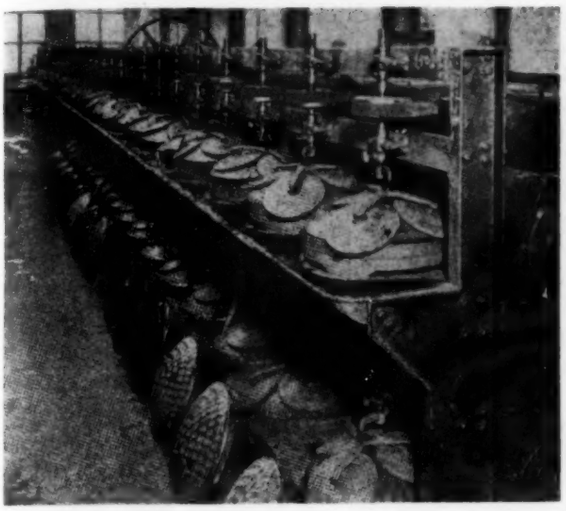
A pair of Chinese spectacles, worn in 1720.

Spectacles—lenses mounted in a frame and supported on the face—seem first to have come into general fashion in Italy. Florence started the spectacle mode about 1280 and made it permanent. There is a painting of St. Jerome in the church of Ogni Santi in Florence which was done in 1480, showing the good saint seated at a reading desk, busy at his literary work—he emitted some savage blasts against the heretics of those parlous times—and alongside the desk is depicted a small eyeglass hanging on the same peg that holds his ink horn. The glass holder even had a hinge at the nose piece, apparently to allow it to be folded.

Benjamin Franklin wearing the first bifocals.

That sweet old character who contributed so much to the joy of nations, Sir Samuel Pepys, quaintly and plaintively writes of his bad eyes. Apparently he did not have the courage to dispute his oculist, Dr. Tuberville, who insisted that Samuel's eye glasses should not be made stronger as he became older; perhaps because of this oculistic stubborness we today lack much of the delightfully droll product of a master pen that ceased to write all too soon.

One of our own eminent citizens, the versatile Benjamin Franklin, inventor of modern aphorisms, also invented bifocal glasses. He astutely observed that his single lens glasses, intended for close work, did not allow him to see well at a distance. Being of an economical turn of mind, he had his optician make a pair of double lenses, by mounting two pairs of lenses in one frame, the upper one to be used for distant vision, the lower one for close work. The joint between the two lenses was central and horizontal. With slight refinement, we still use this idea. Bifocals are a boon to millions of glass wearers who have reached the age of 45, the usual time when one begins to have difficulty in seeing clearly at the usual reading distance,



Machines of this kind grind and polish the lenses.

because the lens within the eye has lost its earlier elasticity.

During my wanderings, one time I visited a cloisonné factory in Japan. Admiring the marvelous handicraft of painting a thousand separate and distinct butterflies on a piece of porcelain not much larger than a dollar, I inquired as to the maximum age to which the painters could continue their work. The reply was, "Until they are forty." The advance of old sight retires them when they are probably at the acme of artistic skill. The use of glasses would easily extend the work period from fifteen to twenty years.

The current style is spectacles in various forms, although we do see persons wearing pince-nez, or eye glasses. The French term for eye glasses—pinch nose—is painfully true! Spectacles are of much greater worth to us than any other form of optical aid to be worn constantly. They hold the lenses steady and accurately in place. Glasses must be kept correctly centered before the eyes or they are not efficacious.

For those who use glasses for near work only, spectacles are not particularly convenient. Many persons have different sorts of glasses for varying types of work. For instance, it is entirely out of the question to play the piano while wearing bifocal glasses to read the music. One's neck will not long endure the discomfort. For such persons vocational glasses are a frequent necessity. The big library glasses are comfortable to use while perusing a favorite volume. Of course such frames are too bulky to be used in the street or carried about.

Present-day glasses are mounted in frames known in the trade as "shell." They resemble tortoise shell, from which frames were made in the distant past. Shell is a celluloid compound and is well adapted to its purpose. It is light weight, fairly strong, readily worked into any shape and may be cemented and polished.

Opticians are making considerable ado these days about white gold frames for glasses, and indeed they are excellent, perhaps the best of all. Sometimes they are not quite as becoming as shell frames but that is a matter of personal taste. A metal frame is more persistently serviceable than a shell mounting.

A vast deal of manual skill, keen eyesight and training goes into the manufacture of eye glasses. Optical machinery is expensive and highly perfected, yet basically it is quite as simple as the little spinning disk and oily diamond dust with which the diamond cutter makes his shining jewels from what seem to be dull, valueless bits of glass. The two processes are identical.

Maybe you are a statistically minded person who has amused yourself, while in a motor bus or street car, by counting the proportionate number of people who wear glasses. If so, you have estimated that there are approximately fifty millions of your fellow citizens whose faces are supporting glasses. That is more or less correct. Nobody knows just how many there are and it does not make any particular difference. That the number is large we know, but the more important point is that there are millions more who should be wearing glasses.

The glass is heated and shaped in the molding room.

The total attendance of our public schools approaches 25,000,000 children, of whom more than 6,000,000 have frankly defective eyesight; probably the true count is 15,000,000 of optical defectives. Obviously, this vast army of youngsters is at a costly disadvantage unless its eye defects are corrected. Many contend with vision so inferior as to imperil mentality, not to mention comfort and safety. They are rated as dull, and actually are backward; and they readily tend to become truant and rebellious.

It might be of interest to learn, briefly, just how the glasses you wear are ground. Your optician buys what he calls blanks, of clear, white optical glass (or of various colors to offset

glare). The blank is attached by sealing wax to a small, rounded iron form known as a lap. The lap has a small pit in its upper surface into which the workman places a pin extended from a transverse hand lever, by which he may press the glass down on a lower, curved lap which spins about horizontally on a vertical shaft. The lower lap is properly curved on its upper surface to produce the desired hollowing of the blank pressed down upon it.

Emery powder, in three grades of fineness, is used as an abrasive to make the first cutting of the blank. The emery is made into a thick paste with water and is kept plentifully supplied on the lower lap. The workman bears down with more or less pressure, as may be needed, on the cutting lever and the glass is rapidly ground away.

This produces a lens of proper curvature, but not transparent. Now comes the stage of polishing, which is done with fine, clean rouge—the same thing that is used by the feminine world to heighten color on the cheeks. The rouge is placed on a round piece of felt laid over the lower lap. A lap of the same curvature is used as for the rough cutting. The high speed of the rouged lap produces a brilliant polish on the lens glass. This is a delicate stage of the process, for a little excessive pressure will split the glass, it now being quite thin.

The nearly finished product is a glass of proper thickness, highly polished, clear and approximately 2 inches square. The size and shape of the completed eye glass depend on the size and form of the intended wearer's face and the style desired. They are made in all sorts of shapes—round, oval, geometric.

The lens is now ready to be cut. A small metal pattern is placed in a little cutting machine, and this pattern guides an arm tipped with a diamond, which easily cuts the glass. The excess glass, outside the cut line, is broken off with pincers, and the edge of the lens is ground. For rimless work the edge is squared and polished; for rimmed glasses it is beveled to fit into the frame that encircles the lens.

Sometimes it happens that a lens will be carried through the manufacturing process up to the point of being shaped, when a tiny flaw or bubble will be discovered and it becomes worthless. That means doing the work again. No reputable optician will knowingly sell flawed work, which is bad for the eyes.

Our eyesight is probably the most highly valued of all our senses; consequently it is difficult to think of any device that plays a more important and efficient part in life than do spectacles. It would seem impossible to appraise them at their true worth or to imagine the condition of many of us if we did not have them. Their value transcends calculation. "They keep the curtain from falling until the play has come to an end. Like Joshua, they keep back the night until the day's work is done."

Clean-Up Campaigns Require Cooperation

SINCE every city is made up of all kinds of people the active cooperation of all the residents is required to keep it a clean and healthful place in which to live. Here are a few suggestions made by *Pittsburgh's Health* for keeping the city clean:

When you have something to throw away, place it in a receptacle. Do not litter the sidewalks, streets or vacant lots.

Do not let the weeds grow.

See that the plumbing in the home is in perfect condition.

Screen all dwellings against flies and mosquitoes.

Have proper sewer connections in every house.

Keep the garbage and rubbish in the proper receptacles for collection.

Be sure that all stables are at least 25 feet away from any residence and that they have sewer connection and covered manure box.

Use lime freely in house and yards.

Do not let chickens run at large and keep the coops in sanitary condition and at least 25 feet away from the nearest residence.

Do not spit on the sidewalk or in public places.

Do not permit dry sweeping or dusting in public places.

April clean-up weeks bring occasion for residents to see to it that all of these rules that apply to their community are enforced.

What Mental Health Means

By

E. Lee Vincent

FEW words in the language have changed in usage in the last thirty years more than has the word "health." The 1903 edition of Webster's unabridged dictionary defines health as "that state of an animal or living body, in which the parts are sound, well organized and disposed, and in which they all perform freely their natural functions. In this state, the animal feels no pain." Two conspicuous changes have occurred to transform the applied meaning of this word since this edition of Webster's dictionary was published. Today health is no longer considered a mere negation of a state of pain, nor is its conception limited to the bodily states.

Medical science no longer contents itself with mere relief from pain. The old standard that considered any person healthy who was not actually ill has passed. Just not being sick is no longer considered a state of health, and with this changed conception has come a change in the function of medicine, which now heals sickness as only a small part of its program. Preventive medicine is occupying an increasingly conspicuous place in medical practice. The public is expecting protection as well as cure from its physicians.

People are no longer content just to be free of sickness; they now aspire to vigorous and abundant physical vitality. They now understand physical health to mean possession of vital physical energy in such measure that the person can meet whatever demands of energy the day's work places on him and can still have left enough energy for play and recreation as well as for emergency demands.

The Healthy Have Reserve Energy

The physically healthy person suffers no fatigue from his day's work and play that reasonable overnight rest will not correct. More than that, he has in reserve sufficient energy to meet an occasional severe demand of work or an occasional physical emergency like exposure to illness, to severe cold or shock or whatnot.

The second expansion of the word "health" to include mental and emotional as well as physical health has not yet become so familiar to people in general, but it has woven itself into the thinking of most professional groups that deal with health and it is gaining ground with the public. Progressive physicians are alert to the importance to physical health of mental states; most psychiatrists are aware of the interrelation between physical states and mental health. Physical education groups are consciously training characters and personalities as well as bodies; psychologists and educators are appreciating the importance of bodies as well as minds and personalities.

Out of the increasing awareness of the interdependence of physical, mental and personality states has come a conception of correlated physical, mental and personality development that has been conducive to a broader conception of health. The healthy person, then, must live through his days with more than freedom from excessive physical fatigue; he must be free also of boredom and irritability and worry of the sort that means mental fatigue. No amount of physical rigor can earn for a person the designation healthy today if he is suspicious, fearful, irritable, driven by anxieties, or otherwise below par in mental health and personality.

Meeting Each Day with Interest

Most persons are beginning to realize that to meet each day's program with interest is as important as to meet it with physical vitality; that to be cheerful, resourceful, tolerant and self-controlled is to give evidence of mental health and that such traits are not chance gifts of personality decreed at birth by the whim of fate but are rather to be achieved through healthful living. Following the pattern of the current idea of physical health, mental health is understood to mean vitality both for daily demands and for emergencies. Any emergency either of good or evil event tests the stamina of mental health, for it is as difficult to meet brilliant success without losing one's head as it is to meet failure or misfortune. Sound health habits will do much to build the stamina necessary to meet both physical and mental emergencies.

The sick personality is likely to present certain definite symptoms. Among these are shyness, hypersensitiveness, suspiciousness, fears of many things or intense fear of a few things, obsessions of all sorts, disgust with many things or excessive disgust with fewer things, boredom,

melancholy, emotional explosions of all kinds, failure to get on with people, failure to get on with one's work, tendencies to lie, to steal and to commit violence, laziness, untidiness, quick enthusiasms which fail before work is accomplished, violent dislikes, excessive appetite for food, sexual indulgence, excitement, unreasonable enthusiasm for or aversion to the opposite sex or one's own sex, explosive aversion to the institution of marriage or other standard authorities, too much attention to morbid and sensational movies, magazines or stories, undue humility or self-depreciation, blindness to one's own limitations, refusal to take responsibility and inability to make decisions. All these and many other similar traits are listed among the symptoms that indicate an unhealthy personality. They are not, of course, necessarily fatal any more than are constipation, frequent colds, occasional headaches, sleeplessness or other symptoms of imperfect physical health. Achievement of perfect health, however, demands a freedom from any such symptoms.

The healthy personality has vitality, courage and continued interest in living; it is alert, resourceful, self-controlled, direct, efficient, neat though not a slave to neatness, honest though not rude; it is moderate in appetites for food, sex, excitement, exercise of the sense of power and living habits in general. Such a personality has a reasonable faith in other people and in itself; it is enthusiastic with an enthusiasm that endures to the completion of the work at hand and of a life work as well; it is not, however, euphoric, or deluded into an escape from the realities of life whatever they may be. It has constructive and well-balanced attitudes toward the fundamentals of life—toward authority, society itself and all the other realities. It is, in a word, happy with the happiness of a mature and well-balanced adjustment to life.

Attitudes toward authority compose one large group of attitudes that in their soundness or lack of soundness determine the happiness and mental health of the person. Willingness and ability to recognize and to accept the fundamental physical laws that govern human life, to realize and to adjust to civil and social law, to adapt to the authority of vocational or business superiors are among the first essentials in adjustment to daily life. This does not mean unquestioning acceptance of authority per se whenever it presents itself or of whatever quality it happens to be. Maladjustment can result from too ready acceptance of bad authority as easily as from too constant resistance to good authority. The thing that is necessary in a training for sound adjustment to authority is a progressive ability to recognize good and desirable authorities as well as to detect destructive or unwise authorities. More than this, the growing personality must develop strength enough to accept and to cooperate with good authorities as well as to resist bad ones.

> The healthy personality has confidence without arrogance, humility without timidity; it holds for itself a high standard of constant growth toward greater health and usefulness.

> It is as difficult to meet brilliant success without losing one's head as it is to meet failure or misfortune.

In training children this means giving them a sufficiently varied experience with authority to permit their acquaintance with diversity, and from that to learn the fundamental principles of a wise choice of authorities. The child who is not allowed to experiment with the authority of his group or of other children's parents or with the dictates of his civil community has no opportunity to judge any authority other than that of his own parents. Knowing only one type of authority he may become either unduly suspicious or uncritically trustful of all other authorities, thus being obviously badly prepared to meet life away from his parents. A dominating and uncompromising authority throughout childhood may produce the personality that submits to every passing influence, that cannot think for itself and that has no initiative of its own; or it may produce on the other hand a personality that fights all authority, that is unable to take orders or to cooperate with people, that overtrusts its own judgment, refuses to accept advice, is anarchistic and iconoclastic.

Neither the personality that lacks self-confidence and initiative nor the one that is negativistic can expect to find happiness or a sound adjustment to life. Successful adjustment to authority results only when the person has learned to recognize and to cooperate with the type of authority that is conducive to social as well as to individual welfare, be this authority physical, civil or canon law, convention or group custom, or superiority of knowledge and experience. He must know also when submission to unwise authority is destructive to himself and must, therefore, retain sufficient trust in his own personal judgment to encourage resistance to destructive or unwholesome authority. The well-balanced personality has achieved a quality of compliance that is free of

weakness and of individuality that bears no taint of eccentricity.

Attitudes toward reality provide the most important key to health of personality. In a sense they include all possible contacts with life and therefore cover all other groups of attitudes, since reality covers everything that exists, and if the person is adjusted to it he is adjusted to all the facts of life. Many people do not realize that one part of the philosophy of life is necessarily concerned with willingness to see things as they are rather than as we wish them to be. Perhaps the greatest weakness of human personality is the tendency to color the world about us so that it takes on the aspect of a world as we would like it to be, leaving behind the world as it is, which at the same time is the world as we are unwilling to believe it to be. We tend to withdraw from harshness and responsibility, ugliness, death, age, failure and other realities of life. Once bound to weakness and failure we tend to deny strength, beauty, freedom, success or other such facts of life. An honest, straightforward recognition of our own weaknesses and failures, of other people's happiness and success, of progress or change even though it leaves us behind, of growth or deterioration, of youth or age, of love or indifference, of popularity or ostracism is essential for adjustment to reality.

One may play the rôle of martyr thus attracting attention or controlling people through weakness, commercializing failure or playing up a defect, denying strength and refusing to use whatever measure of it one has. But such behavior is destructive and it represents escape from facts. We may trump up endless excuses and rationalize behavior, project failure into any circumstance or any person rather than accept it as our own, but in so doing we are usually evading reality and, strangely enough, are often fooling no one as completely as we fool ourselves.

Mental hygiene teaches that mental health is dependent on focusing attention on and commercializing strength rather than weakness, and on accepting adjustment to the facts rather than evasion of them. Acceptance does not of course mean passivity in the face of weakness or failure. But acceptance of these facts as real whenever they do exist is a necessary preliminary to correction or adjustment, since we cannot correct or adjust to that which we do not recognize. Weakness should be corrected and failure turned into success whenever possible if the maximum of health for individuals and for society is to be established.

Perhaps the greatest weakness of human personality is the tendency to color the world about us so that it takes on the aspect of the world as we should like it to be.

Honesty with facts need not imply a stony lack of imagination, but it may often prove a distinct asset to the useful application of imagination. The unhealthy aspects of imagination are day-dreaming and fantasy, which are usually useless and often even dangerous. Both of these occupy themselves with protective escapes from reality and are not at all concerned with translation of their content into use. Creative imagination, on the other hand, is separated from fact in the sense that one often imagines what has never happened but it differs from day-dreaming and fantasy in its purpose. Creative imagination has no wish to escape fact but rather leads persistently back to reality and results in action that produces or creates useful and beautiful things. The one is unhealthy because it represents waste and a temptation to complete retreat, which means insanity; the other is healthy because it represents constructive productivity and necessitates continued contact with reality, thus creating at least a measure of economic independence and social adjustment. The healthy personality then may dream dreams but never escapes from facts; it faces truth but never becomes morbidly introspective or deadly unimaginative.

The individual's adjustment to society provides another focal point for a set of attitudes that contribute to mental health or illness. Few persons today are free of intimate contacts with others, individual inhabitants of desert islands being rare. Two types of adjustments are involved: one set being the adjustments to persons of our immediate environment, usually our families and neighbors; the other set being made up of our attitudes and practices toward society at large. Many of us make it a point to recognize the needs of our neighbors, to adjust to the individual dispositions that make up our families, but most of us fail to realize how necessary also is adjustment to society or humanity in general. Individual health may perhaps be maintained for a long period on the

Each person owes something to society at large, the minimum for healthy, normal persons being self and racial maintenance but for superior persons constructive contribution over and above that.

basis of the narrower adjustment, but social welfare and in the long run individual welfare also depends on the wider adjustment.

Persons must mold their own desires to fit those of others in such a way that maximum welfare results for every one. That one's own desires must undergo adjustment is a fact distasteful to certain persons, usually those whose early training has created for them the false impression that the world should bend to their every desire. That each person owes consideration to others and must contribute to the happiness of others in order to achieve maximum smoothness in his own social contacts seems never to have been made clear to certain maladjusted, ostracized and unhappy people.

Each One's Debt to Society

That each person owes something to society at large, the minimum for healthy, normal persons being self and racial maintenance but for superior persons constructive contribution over and above that would, if accepted as a working principle, eradicate much of the strain and resentment now dominating many lives. The world owes no one a living if he is free from extreme mental or physical handicap. Many a pseudo-poet or inventor would improve his adjustment to life and consequently his mental health through an appreciation of this fact.

The whole philosophy of love and affection is involved in one's adjustment to people. A sane attitude toward the amount and kind of appreciation and praise that one can or should expect from the world is important. How much and what kind of physical expression of affection is desirable and when, where and under what circumstances it should take place are of vital significance. A sound attitude toward the institution of marriage with an appreciation of its responsibilities as well as of its benefits is essential. A fine balance between individual freedom and obligations to parents, to children, to marriage, to charity, to the function of citizenship, and to all other social contacts must be maintained if mental health is to be at a maximum.

The Right Attitude Toward One's Self

So also one's attitude toward one's self must be maintained in good balance. An expectation of success beyond the scope of one's capacity or contentment with limited use or development of one's potentialities are attitudes preventive of maximum mental health. Excessive self-confidence and excessive self-depreciation are both bad. Constant playing for the center of the stage or constant erasure of one's self are extremes between which lies the healthy point of reasonable self-assertion. The healthy personality appreciates its own strong points and feels a responsibility for constructive use of such strength; it also appreciates its own limitations and endeavors to remove them, or if this is impossible, it learns to accept them. It has confidence without arrogance, humility without timidity; it holds for itself a high standard of constant growth toward greater health and usefulness.

Other attitudes important to mental health could doubtless be discussed profitably. But if practice in the fundamental attitudes desirable to a sound adjustment to authority, to facts as they are, to one's relationships to society, and to one's own self could become general, the level of mental health would doubtless be raised with a consequent favorable influence on physical health.

TRAINING
The Physically Handicapped Child
FOR CITIZENSHIP

ONCE upon a time the sick or physically disabled child fell behind in his school work. He failed to be promoted at the end of the school year and finally he became too old for his grade. The result was that he lost interest and dropped out of school entirely. Thus, too often, this child grew up handicapped not only physically but by lack of proper education.

The last ten years has seen this condition remedied to a certain extent. Today all large hospitals maintain schools for their young patients during the dragging periods of convalescence. Excellent as such a school plan is, it is none the less inadequate, for it leaves out all the children in the acute wards. In the medical sense the term "acute" is used to denote the condition of any patient requiring daily treatments. Many a child, therefore, may remain in the hospital long periods of time, and still be labeled an acute case. Yet he is perfectly able to be taught and should have schooling.

Child Trained for Place in Community

The University of Michigan State Hospital is believed to be the only hospital in the country that conducts a regular school program in the acute as well as the convalescent units. The success of this school should make every community eager to try the same plan. If the child who is physically handicapped can still receive an education and specialized training, he is enabled to take his place in the community life; he becomes then an asset instead of a liability.

In the University of Michigan State Hospital more than 2,000 children between the ages of 5 and 20 receive instruction yearly; these children do regular school work, are graded and promoted according to their ability. There are children on crutches and in wheel chairs, children with a leg or an arm in a cast, children in beds and on frames. Only one child is absent from this school—and that is the well child. Such a school is held under disadvantages, you may well think; yet there is probably no school in the United States where each day's work is so eagerly anticipated.

The hospital has ten teachers, each of whom devotes eight hours a day to the work, dividing her time between the convalescent and the acute wards. In the acute units, the hours for school —that is, for group work—are from 1 to 3:30, since mornings in these departments must be kept free for medical treatments. All work is, of necessity, given under the advice of the physician in charge. At the end of each ward is a sun room to which all those who can be moved are brought for school at this time. The others receive bedside instruction at hours arranged by the teacher to whom they have been assigned. Every child who is to remain in the hospital more than two days receives some schooling.

Regular Promotion Is Given

The work done is correlated with that of the child's home school. The textbooks and courses of study used are those authorized by the state board of education for public schools. High school work is also taught, with the exception of the study of biology and the sciences. The hospital gives regular promotion when earned and sends a written report of the child's progress to his principal. There are several cases on record of children, who, on resuming work at home after hospital instruction, received double promotion. This seems on first thought unbelievable, in view of the physical handicaps under which most of these children study. As a matter of fact, however, the average rate of progress is faster than in the public school, for about three months' work is covered in two and a half months' time. This is owing to the fact that the child receives what is virtually individual instruction and can progress at his own rate.

The children who seem to study under the greatest disadvantages are those who are partially suspended in traction devices and those who lie on the Bradford frames. The traction is simply an arrangement of ropes and pulleys by which one member of the body may be elevated. It is used chiefly

By
Aline Ballard

in bone and joint cases in which it is advisable to keep the affected part in a certain position—generally one impossible to be obtained in any other way. Occasionally the traction device is used to bear the weight of a cast. One little boy whose leg was in a cast from hip to foot used the rope and pulley to lower or raise his leg. He was thus enabled to move with comparative ease, even assuming a partially upright position.

The Bradford frame is used in cases of hip and spinal trouble. The frame is made of two pipes placed parallel and the width of the patient's body apart. It is padded and the patient is strapped to it by means of a straight jacket of muslin. The frame rests on wooden blocks, which rest on the bed. There is a special frame for the night provided with extra padding. One tiny girl lies night and day on her stomach, absolutely flat—even her head cannot be elevated. An opening is made in the frame for her face, and through this she looks down on to the bed below. She can look at books or pictures provided that they are placed directly under this opening. The nurses say these frames are comfortable; apparently they are, if one may judge from the air of general content that pervades the place. Babies coo and play with their hands; they drop off to sleep as readily as if they were in their regular beds. Indeed it is true that the child responds in most cases very quickly to hospital care, showing improvement in mind, disposition and health. Many of the children are from large families in which the mother has neither the time nor the facilities to care for them properly. To them the hospital is a haven. They adapt themselves almost at once to its routine. School is looked forward to as a real event of the day, the most interesting feature of the hospital program.

One of the interesting cases in the primary school is a boy who has been on a frame for almost three years. He began his school work with the hospital and has progressed from the kindergarten to the second grade. Eventually his back will be entirely cured—as straight and strong as any one's. But, first, he must graduate from the frame to a metal jacket, thence to a celluloid one, and finally to braces. The process is slow; meanwhile he is thinking, not of himself, but of his school work, and he is happy and contented. When he does go out he will be as far advanced educationally or further than the average child of his age.

Joe ties scout knots with left hand and teeth; his right arm is entirely paralyzed.

Many of the children, like this little boy, start their education in the hospital. Half of the children each year are of preschool age. The hospital preschool program is similar to that of any private school. Like the older children, these little tots meet each afternoon in the sun room at the end of their own ward. All who can walk, ride or be carried are present to take part in the fun. For those who can stand, the sand table is popular. There are blocks and beads, clay to be made into bread and doughnuts, mats to be woven, and paper dolls to be dressed. One little 4 year old who had shown some trouble in hearing and understanding, when given the colored blocks, constructed intricate and harmonious designs. Whenever a teacher notes evidence of a special talent, she makes a point of seeing that the child has every chance to develop himself along that line. There is, of course, picture study, the dramatization of minor incidents in Mother Goose, and the phonograph program. At the end of the afternoon the children go back to the wards stimulated and happy. The glamor of the schoolroom and of the school program, in addition to supplying mental training, helps appreciably to break the monotony of their days.

This boy has spent three years contentedly on a frame.

An important feature of the hospital school and one unfortunately not possible in all public schools is the mental testing program. Every child who stays in the hospital more than two months or who at any time begins to

show signs of failure, is given a mental test. Since the school conducts special classes, pupils can be grouped exactly according to their mental ability and inclinations. Sometimes in the case of older children, the test serves as a guide in choosing a future occupation; and this is of especial value for the crippled child, since his field of activity is, of necessity, somewhat limited.

The boy patients have their own scout troops, which now number more than 100 members. Regular meetings are held every Saturday afternoon. Scout leaders bring outside troops into the hospital, stage entertainments in the wards and in general direct the activities of the hospital troop.

To these boys, whose lives are a schedule of bandages and dressings, of meals on trays and medicine, the scouts rushing in from outside bring a breath of normalcy, like a healthy fresh breeze blowing through the room; they make the boys inside feel that they belong to the world without.

How can these boys be scouts? The Boy Scout organization is not administered on sentimental lines; its requirements are rigid. Building a fire, covering a mile in twelve minutes at scout's pace, swimming, these things naturally have no place in hospital life; some of the boys will never do them. The National Court of Honor has decreed therefore that in the case of a boy who is physically disabled, substitute requirements shall be devised. Furthermore, each boy is allowed to choose for himself the task that shall take the place of the thing he cannot do and win for him an achievement badge or medal. Some of the boys have carried out projects in square knot handicraft, others in map drawing and still others in modeling and in wood carving. All those who are able to use their hands or even one hand take part, and in almost every case they choose the thing that is hardest and work patiently and eagerly at it.

There remains, after all, a vital part of the scout program in which these boys, physically handicapped though they are, can share and excel. For example, the boy in bed or in a wheel chair can tie knots as skilfully as the well boy, and he has much more time to practice. One of the smaller boys, who has just mastered his last knot, demonstrates proudly that he can tie them every bit as fast with his one hand and a strong set of teeth as the other boys in the troop who have two hands to use.

High school scouts give the hospital boys a lesson in making model airplanes.

Then there are all the things to be studied. Here these lads shine. The scout oath, law and motto; the scout sign, hand clasp and salute; the history of the flag of the United States; the meaning of the scout badge; animal and bird life, too; the names of the trees and flowers—all these they learn from their scout manual and from other books, which they procure from the hospital library.

Signaling is the most popular pastime. All the boys know the alphabet of the semaphore code, which is given with two flags, and most of them are trying to learn the general service or international Morse code. Some one sent over some buzzers to the hospital and almost any time of day except during quiet hours, the ward sounds like the telegraph office in a railroad station.

One of the scout requirements is the tying of simple bandages. Try any one of these boys on that. Bandages are real to them, not just pieces of cloth to be fastened around imaginary wounds. They see all kinds of them made by skilled hands, and they know from personal experience just how important it is to have them fixed exactly right.

Many of the boys devote every spare minute to building model airplanes. Some of them hope to sell these planes. One of the requirements to be passed before becoming a second degree scout is the thrift test, which compels a boy to earn and save one dollar. Now, when you are in bed, it is easy to save but not so easy to earn. A few of the boys have made and sold baskets and bird houses. Soap companies send large blocks of soap for soap-carving projects. Thus, the scout program fits in with the school program.

The hospital school was started first to enable its small patients to keep up with their school work. An astonishing result, in that it was entirely unexpected, has been the effect on hospital morale. The child who has school work and group activities is more cheerful and contented. His mind is given a new stimulus and directed away from body ailments. The resulting improvement is both physical and mental.

The University of Michigan State Hospital School is no longer an experiment. Its continued success over a period of five years has proved conclusively that every child in a hospital may be given some sort of school program, with the assurance that through it he will become a better citizen of the hospital just as later he will be a better citizen of the world.

I had to lie in a cluttered room with chaotic wall paper.

Lessons in

II. Learning to Let Loose

We are living at a rapid pace these days, and as a result our people are dying before their time of the various degenerative diseases —organic heart disease, arterial disease, apoplexy and nephritis (Bright's disease). While it is true that the average length of life is increasing, it is also a fact that the life expectancy of a man of 50 is not as great as it was a few decades ago. As it is out of the question to consider the advisability or possibility of going back to a horse-and-buggy existence, it becomes extremely important that a means be found of counteracting the bad effects of high-speed living.

WHEN the president died a few years ago there was another man ready to take his place. When the prima donna has a sore throat an understudy is ready for the cue so the performance can go on. But when lesser folk get sick they simply must go on else the work will stop entirely—so at least we are led to believe. Presidents and high executives can find time for recreation and a bit of golf perhaps, but John Smith feels that he must not turn his back on the business for fear it will take wings.

In these stirring times the power to relax is of the greatest importance in the maintenance of sanity and health. It is a well-known principle of physiology that even the slightest exertion becomes a great burden if it must be continued indefinitely. It is less tiring to lift a heavy weight many times than it is merely to hold the empty hand out at arm's length for a time. How to relax, to let loose and get a new hold, is an art that a great many persons have never mastered, more is the pity.

The modern executive with the aid of stenographers, dictaphones, telephones and other devices intended to speed up the work makes five or ten times as many decisions as did the man in a similar position a generation or so ago. The physician sees a dozen patients as they come through the clinic while his grandfather was driving old Dobbin to visit a single one. The old-time physician might sleep as he drove along but not so the man who drives a car in through the congestion of modern traffic.

Rest, recreation and relaxation would seem to be the antidote. How can they be attained? The answer has many phases. There is first the matter of the job that makes the worker tired. It is impossible for a big man in a little job or a little man in a big job to avoid dissatisfaction, fretting and worry. We cannot believe that a far-sighted man will be happy working indoors at close bench work or that a deaf young woman will do well as a school teacher. A nervous person will go wild as a court reporter, and a dull one will worry because she cannot keep up with her dictation. Misfits will be worried and worn out by their work. They will find it impossible to relax when they are in fear of losing the job that means a livelihood for them.

Progress is being made in the fitting of workers to their jobs and of adjusting jobs to the worker. Intelligence tests and scientific study of mental aptitudes and physical fitness are doing much to correct and prevent misfits, but even so there are great numbers of persons who clash with their jobs.

Then there is the matter of the home. Some day the use of colors, design and arrangement in attaining restful or stimulating effects will be generally understood, but at present the house-

Relaxation

By
Thurman
B. Rice

For efficiency, let us strike for restful bedrooms.

wife usually has little idea of such matters. Great progress is being made in this direction, however. A few principles will suffice to illustrate the point: direct light is stimulating, indirect or shaded light is restful; bright primary colors are stimulating or depressing, as the case may be; neutral colors are quieting and restful. Music may stimulate one to patriotic or religious ecstasy, arouse the passions, drive one to lawless acts, or it may soothe a baby or a tired man to rest and sleep.

For the purposes of relaxation, the most important pieces of furniture in the house are the beds and easy chairs, and the most valuable rooms are the living room and the bedroom. About one third of the twenty-four hours should be spent in bed. How utterly foolish it is then to have a poor bed if one can possibly afford a better! The bed that squeaks if one moves so much as a foot, that is full of humps and bumps and lumps, that sags in the middle and teeters and seems as if it were going to toss the would-be sleeper out on the floor, that is too soft or too hard, that hasn't enough cover, that smells unclean or musty, or that has stiffly starched sheets and pillows or scratchy blankets—may God deliver us from such as this!

I had upon a time the misfortune to be compelled to lie for several days in a bedroom with a chaotic wall paper, a flapping window blind and ugly, dirty curtains; a cheap picture and a pair of extinct ancestors decorated the walls. A lurid "motto" asked me the heartening question "Where will you spend Eternity?" A worn red carpet with spots and holes covered the floor, and a dresser cluttered with all sorts of jimcracks and do-dads stood in the corner; above it hung a cracked mirror full of checks and made of imperfect glass that did funny things to your face. Yet this was in the home of a fairly well-to-do family with a lavishly furnished "parlor" that was scarcely used an hour a month. In the name of efficiency, health and long life, let us strike for restful bedrooms where we can retire without having to look at a bad enlargement of a worse picture of somebody's Uncle Abner, where we can get away from things without being distracted by a shrieking set of drapes or a dizzy wall paper design.

How and where to build a house so that it will be away from noises so far as that is possible, how to locate the bedrooms so that they will be quiet, how to insulate the house against noise as well as against cold winds, how to arrange it so that persons who must be busy will not disturb these who wish to rest or sleep, these are matters that architects are coming to consider essential. What to do with students of the piano, cornet and saxophone in the house and neighborhood is as yet an unsolved problem. The prevention of a myriad of other unnecessary noises—trains, automobile horns, trucks, busses and street cars, the neighbor's radio, his children, his dog—is an undeveloped field in practical hygiene.

The worker in need of relaxation must consider his food. Hot or cold foods—if extremely hot or cold—are stimulating and should be avoided. Cool drinks are soothing in hot weather, and warm food is definitely relaxing. Highly seasoned or highly flavored food is stimulating, as also are unusual foods out of season or from distant places. Simple foods, well prepared, and familiar foods will be far more likely to suit the tired worker than an

elaborately served menu with many frills. If food is bulky it will help, provided it is not too hard to digest.

To linger a while at the table and pass the time with friends and members of the family is of distinct value. If one smokes, a quiet pipe, a cigaret or a cigar will have a soothing effect, though I do not wish to imply that smoking tobacco is an aid to health. After dinner it is customary for the tired business man who is well adjusted to his environment to read the paper, sprinkle the lawn or sit before the fire as the season may dictate. He plays with the children, listens to his favorite program on the radio, slips into house slippers and loose clothes, takes a warm bath and turns into dreamless sleep.

Many simple devices will help the restless person to attain an attitude of mind that will allow him to relax—the flicker of the open fire, the cadence of soft, smoothly flowing music, the patter of the rain on the roof, the ripple of a stream, the rustle of the wind among the leaves. Rhythm may have an irritating effect or it may be soothing. The tick-tick-tick-tick-tick of an alarm clock is disturbing while the tick-tock, tick-tock of a tall hall clock has the opposite effect.

Pleasant company, a good book, an occasional show or movie, a round of golf, a well deserved but barely afforded luxury such as taking dinner out, a change of scene, a trip back home to see mother, a gift of a box of flowers for the wife's birthday or a pair of skates for Junior may have the effect of breaking the spell. It's worth a try any way. I have a work shop in the basement that has sometimes helped me to avoid being cross with the family. A garden to tend, a lawn to sprinkle and clip, flowers to weed, fish to catch, hobbies and whims have kept many a hard pressed wight out of the bughouse.

There is a common belief that one should not give way to his whims, that he should resist the mood that makes him want to get away from his work, and at such a time should dig in the harder. Many folk cannot choose any other course, but it should be known that such a martyrdom lays a heavy toll on the nervous system. I have found that I do better to knock off at such a time. In such case the mood soon passes and it is possible to work with ease and enthusiasm, while a forced application to so-called duty will usually cause the period of depression to continue for a week or more. After all, we must remember that our obligations to our health are also duties.

Many times I have quit work in the middle of the day and have gone to a movie to come out three hours later mentally unloaded—clean. On one occasion the three "wasted" hours caused a delay in a most important decision which would have otherwise been wrongly made without the calm, cool consideration that can come only with repose. Another time the pressure of a strong and alluring temptation became light as a feather when an important task was left to take care of itself while the truant worker mowed weeds on his Tom Thumb farm.

This matter of relaxation is largely one of attitude. Rarely indeed are things as bad as they seem at the time. I well remember a certain summer when the crops were "ruined" at least a half a dozen times and came out in the end better than the average. The "terrible" experiences of the first few tough years of married life are told and retold to be laughed over, cried about, and handed down to the children as sacred family lore. Sometimes I wonder what we would have to laugh about if we never got into jams—the time we got stuck in the mud, the time Louise fell in the tar with her best dress on, the time the rain killed the motor and we had to sleep all night in the car and nearly froze! Or, you tell one! There are those who make fun of Pollyannaism. Just the same it is perfectly true that things are rarely as bad as they seem.

It is proper that you should feel that you have an important job, and that the job needs you, just you, but it is ridiculous to suppose that no one else could do the job but you. I have in mind a man who was afraid to die only because he was leaving his wife and six children without a cent and without his care. As a matter of fact his care had been of little value, and three years' time found his wife and children in far better circumstances than they had ever known while he was alive. He might have saved his worry and have died in peace. How many times have we said, "What would we do if it would happen?" And then it did happen, and we got along all right.

The hard times will pass; the young people are not going to the devil any more than they always have; the Volstead act is being violated but so has been for quite some time the well known code of Moses. Anyway stewing about it won't help a bit. Better get a good night's sleep before starting in on the eighth and final day of Creation—it's a big job for a man who hasn't rested well.

"Goody, goody," cried Alice! "I hope he is bringing me a letter."

Alice in Slumberland

IV. A Useful and Beautiful Gift

By

Nellie G. Herriman

She opened the door just far enough to put her head through.

ALICE flattened her nose against the window and watched Mike, the postman, as he came whistling down the street. Across his shoulder was swung an enormous bag of mail, from which dangled several small packages. With one hand he was sorting letters; the other hand carried a huge black umbrella, for it was raining hard. The postman's shining black overshoes made an enormous splash as he went through the puddle in front of the gate and came up the walk.

"Goody, goody, goody!" cried Alice. "He's coming in! Oh, I hope he is bringing me a letter or card or something!"

She opened the door just far enough to put her head through. "Is there a letter for me?" she asked, although she really had no reason to expect one. She had neglected to answer all the letters she had received lately, and all her cousins and aunts were probably hoping for a letter from her this very instant.

Mike, the postman, smiled and shook his head. "Now, I don't believe there is," he said, "but here is a package for some little girl. It might be for you; what is your name?"

The postman knew well enough what Alice's name was, but he must always have his joke, for he was a very jolly postman.

"Alice Adams," she said, standing on tiptoe to see the name on the small, flat package he held.

"Why, it is yours, to be sure," he said. "Now, I suspect some one has sent you something nice."

She skipped into the house with the package in her hand. Mother came to look on while she opened it, and was happy about it too. Alice could not open the package quickly enough. What could it be? Finally the string was off and the paper wrapping was unfolded, showing a small white box. Dear, how excited she was! When she lifted the lid of the white box a card tumbled out; on it was written, "To a good girl, from Aunt Mary." She became more excited than ever, for Aunt Mary was one of her favorite aunts and could be depended on to select something nice as a gift for Alice.

Alice wiped a tear from her eye with the corner of her apron.

Her fingers trembled so that she was slow in unfolding the tissue paper inside the box, but at last it was open. There lay three white handkerchiefs with pink borders and "A" embroidered in the corner of each.

"Oh," said Alice.

"Those are very nice," said Mother, smiling. "Very useful and beautiful, too."

Alice could not answer. She had to blink her eyes to keep back the tears. She did not want Mother to know how disappointed she was. She had many handkerchiefs,

all much alike, and she thought this was a poor gift. There were many things she would have liked better.

"You must write your Aunt Mary right away and tell her how nice her gift is. Be sure to give her your thanks," said Mother, still smiling.

Alice went to her little writing table and took up her pen and a piece of clean white paper. She sat thinking for a long time; how did one thank an aunt for a gift one did not like?

"Dear Aunt Mary," she wrote, "Thank you very much for the handkerchiefs. They are—."

What else could she say? Now, anybody knows one should write a nice letter when some one has sent a gift, but her pen stopped and she could not think of another word. She put her head down on the table and tried to think.

"They are nice handkerchiefs," she thought, "but I didn't want handkerchiefs." She wiped a tear from her eye with the corner of her apron.

"Yes, they certainly are nice handkerchiefs," said a brisk voice, and Alice looked up, quite surprised. There stood the Rabbit, dressed in his best black coat and with a silk hat on his head. He looked as if he were going some place important. Alice could only stare at him.

"Come, come, aren't you ready?" he asked.

"Ready?" said Alice. "Why, I'm not going anywhere."

"You were invited," said the Rabbit, "and that settles it."

"Where was I invited?"

"Why, to the party," said the Rabbit, fixing his tie in front of her glass.

"What party?" Alice asked. "I didn't know there was a party."

"Why, the King's party," said the Rabbit. "He's having one of his birthdays, and everybody is invited. The Queen has been busy baking tarts for three days. We'll have to hurry, or we'll miss something."

"I'm not ready," said Alice. "I'll have to put on my party dress."

"There is no time," the Rabbit said, looking at his big gold watch. "We are late now. You are clean and neat, and people are always respectable if they are clean and neat. Come just as you are."

"But I never went to a party in an apron."

"Never is a long time. Come along now. Tuck one of your new handkerchiefs in your pocket, and you will be all right. Better tuck in two; never can tell when you might need an extra handkerchief."

Alice did as he bade, for she had learned that the Rabbit could be cross when he was angry. She put one handkerchief deep down in her apron pocket for safe keeping and took another in her hand ready for use.

"Never can tell when a handkerchief may come in handy," said the Rabbit, as he took her hand and led her through the window. It did not seem at all strange that on the other side of the window was the long hall that led to the King's palace.

"Yes, sir," the Rabbit was saying, "that handkerchief may come in handy. You may want to cry or sneeze or something, you know!"

They walked through the long hall that Alice had seen when the Knave took her to the court for tarts, but this time it was crowded with people going toward the great palace. The doughnut lady was there, still weeping and sobbing bitterly, although she was dressed in new sugar-frosting and looked very indigestible indeed. The Knave had on a new candy coat, and was licking his lips, thinking about the tarts. The Hatter was having a hard time of it, for he was having to drag the Dormouse, still asleep, along by the hand.

It seemed that all the story-book children Alice had ever met in her books were going to the party, and they all seemed happy, except, of course, the doughnut lady. Cinderella and Miss Muffet came hand in hand, although she had not heard that they were acquainted. The Three Bears came through the door, with Papa Bear carrying the Little Wee Bear. Tom, the Piper's son, was having a hard time holding the pig, which he carried under his arm. Alice was so busy looking at all the people that they were at the gates of the palace before she knew it.

"Is my tie straight?" whispered the Rabbit. "Have you your handkerchief? You never can tell when it may come in handy, you know."

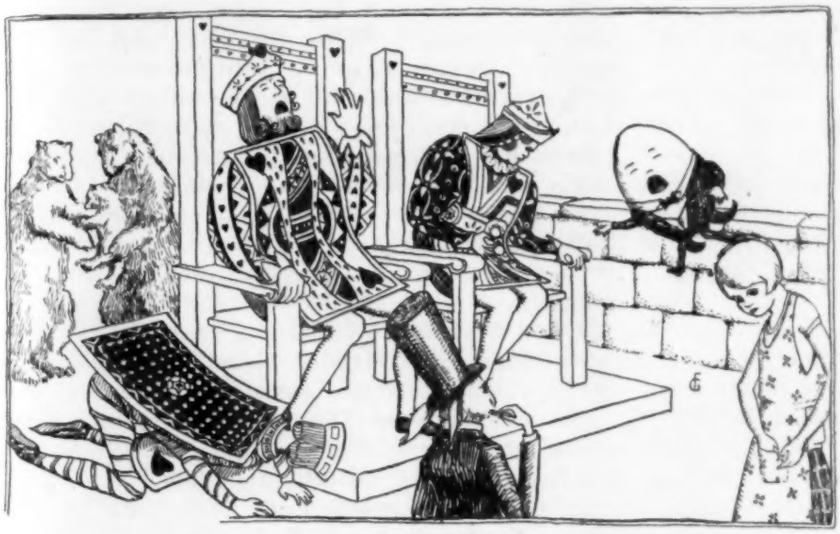
Alice showed him the two handkerchiefs and he smiled. He seemed in a good humor today, perhaps because of the party.

The big door opened ahead of them and they could see the King and Queen on the throne at the far end, smiling and bowing happily. The Queen held an enormous pan of tarts, which looked very good indeed. Alice saw the Knave

The Hatter was having a hard time of it for he was having to drag the Dormouse along by the hand.

slip up beside the throne and put out his hand toward the tarts but the Queen shouted, "Off with his head!" very loudly. The King sneezed, and his glasses flew off.

The Queen put his glasses back on his nose, but he felt in all his pockets as if he had forgotten something. In a moment the Queen was also looking anxiously about, and the Knave, ashamed that he had caused so much trouble, went down on his hands and knees and looked under the throne. The King was becoming excited and sneezed several times, and the Queen shouted "Off with his head"; but as no one knew whose head nothing was done.



"Dear, dear," whispered the rabbit, "What can be the matter? You wait here."

"Dear, dear," whispered the Rabbit, "what can be the matter? You wait here while I see if I can be of any assistance."

He started toward the throne, but just at that moment the court crier cleared his throat and cried loudly:

"Hear ye! Hear ye! The King has lost his kerchief! The King has lost his kerchief! He needs it to sneeze in! He needs it to sneeze in! The Queen has promised an extra tart to the one who finds it. Hear ye! Hear ye!"

The King was so excited that he sneezed several times without his kerchief and the guests all seemed worried.

"Oh, dear," said Tommy Tucker, "I'm so afraid I'll get his sneeze!"

Sure enough, at that moment he wrinkled his nose and said "Ker-choo" several times. He found that he had forgotten his handkerchief, and the people around him seemed angry, especially when they began to sneeze too.

"My, my," said the Mother Bear. "We must take our baby home. He may die of cold-in-the-head, all because the King forgot his kerchief!"

Humpty Dumpty opened his mouth, shut his eyes, and sneezed hugely. He fell off the wall and there was a bad wreck. Almost every guest was by this time sneezing, except Alice, who kept her handkerchief over her mouth, and the doughnut lady, who was too busy crying to sneeze. Every one looked for the King's kerchief, but it was nowhere to be found.

"Bless my soul!" said the Hatter. "This will ruin the party."

The Queen was talking earnestly with the court crier, and he began to cry between sneezes and climbed high so that he could be heard:

"Hear ye! Hear ye!" he called between sobs and sneezes. "Order of the Queen. The party is over. The King has lost his kerchief, and there can be no party, for all the royal guests will catch his sneeze—ker-choo! Hear ye! Hear ye!"

It was a sad party for a moment. The Knave looked at the tarts hungrily, and the doughnut lady sobbed harder than ever. Even the Rabbit had to pull at his whiskers to keep from showing his disappointment.

Alice put her hand deep in her pocket and brought out the pink-bordered handkerchief with the "A" in the corner. She walked timidly to the front of the room, for she was not just sure how one went to a throne, and she was afraid the Queen would shout "Off with her head" before she found why Alice was there. But the Queen was too busy sneezing to see her. Alice put the fresh, new handkerchief in the King's hand.

"Here is a birthday gift for you," Alice said, bowing low. "I hope you will find it useful."

The King shouted for joy and hid his sneeze in the new kerchief. The Queen was so happy that she gave every one an extra tart, and made Alice the guest of honor with the King. Every one smiled, and even the doughnut lady was happy for a moment. The Bears decided it would be safe to stay after all. Humpty Dumpty was not wrecked past mending, they found. Every one cheered Alice.

The guests did not leave until a late hour. When they had nearly all gone home Alice looked about for the Rabbit, to ask him to escort her home. The King and Queen, the court room, the Rabbit and all the people had disappeared. Alice found herself in her own room with her head on the table by the window.

"Dear me," she said, "I must have been sleeping again. Now I know a great many nice things to say in my letter, for a handkerchief is a useful and beautiful gift, and may keep one from dying of cold-in-the-head."

Oh, dear, what a toothache he did have.

Tag-a-long Visits the Dentist

Mrs. Airedale bundled Tag-a-long in his fur coat.

By Ida Spaeth

TAG-A-LONG had the toothache. Oh, dear, what a toothache that poor little dog did have! Mrs. Airedale felt so sorry for him that she tried everything she had ever heard of to make the tooth stop aching. She went to the medicine closet and took out the bottle of oil of cloves. She put a tiny piece of cotton on a toothpick and, dipping it in the oil, plugged it in the aching tooth. This seemed to help the most, and poor Tag-a-long finally went to sleep.

They Start to the Dentist's

Mrs. Airedale made up her mind that the next morning they would march right off to the dentist and have that tooth fixed. She was not going to have her dear little Tag-a-long crying with the toothache.

Bright and early the next morning Mrs. Airedale bundled up Tag-a-long in his fine fur coat and cap and off they started for the dentist.

They had not gone far before they met Mr. Bulldog and his son Tige coming down the road. Tige was looking as glum and cross as a bulldog could look. Every step of the way he was grunting, "Gr-gr-gr." He had a big red handkerchief tied over his jaw and his cheek looked as if it had been stung by a bee or hurt in a fight.

"Good morning, Mr. Bulldog and Tige," said Mrs. Airedale when they met. "What can be wrong with little Tige this morning? He looks as if he had lost his best friend."

"Oh," said Mr. Bulldog, looking pretty cross himself, "we are on our way to the dentist. That little rascal kept me awake the whole night long howling with the toothache."

"Well, that's too bad," said Mrs. Airedale sympathetically. "We may as well all go together; we are on our way to the dentist too."

"Yes, we may as well go together," said Mr. Bulldog gruffly, "misery likes company."

They had not gone far before they met Mrs. Collie and her lovely young daughter Lassie coming along the road. Lassie looked so gay that it made poor Tige almost scream with pain to see any one so happy when he was so miserable.

"Good morning, everybody," said Mrs. Collie cheerfully. "You all look as sad as if you were on your way to bury poor Robin. What has happened? I hope Tige hasn't been in a fight again," she added suspiciously as she spied the red handkerchief around his head.

"Gr-gr-gr," growled Tige under his breath. "Just listen to that, and me with a tooth that's jumping like a jack-rabbit."

Lassie Visits the Dentist, Too

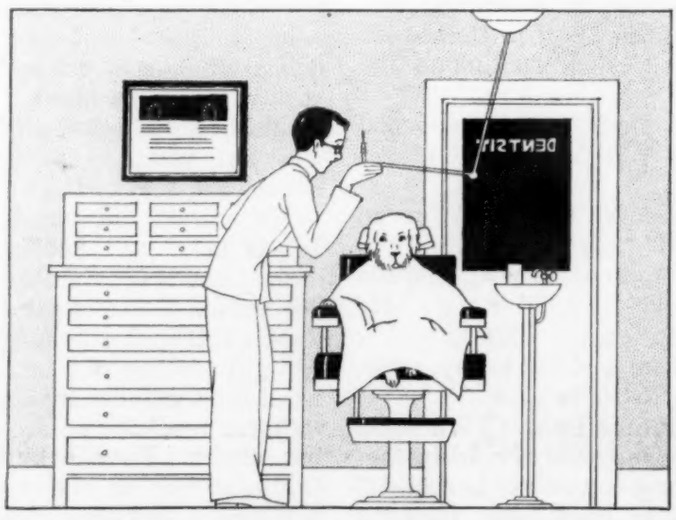
"We are on our way to the dentist," said Mrs. Airedale sadly. "Tag-a-long and Tige both have the toothache and we are going to have their teeth filled."

"Well, isn't that strange? We are on our way to the dentist too. You see we have Lassie's teeth looked over every six months."

"Strange, my ear," said Tige under his breath.

"You don't mean to tell me you go to the dentist before you have the toothache," growled Mr. Bulldog. "What foolishness—a waste of money."

"Oh, no," said Mrs. Collie sweetly, "it isn't as foolish as waiting till you have the toothache, and as for saving



Soon he reached for his little buz-buz.

money—well, you'll see who pays the biggest dentist bill."

By and by they reached the dentist's office. Lassie led the way. She had been there twice a year ever since she had her first baby teeth, so she knew just where to go. But Tag-a-long was slow that morning; in fact, he was tagging along behind as he had never done before. He was not afraid; oh, no, indeed. But he was not used to going to a dentist's office so he had to go very slowly, very, very slowly.

And Tige, the little Bulldog, walked so slowly that he almost did not get there at all. In fact he might still be creeping along if his father had not given him a push and shoved him in the door.

"Well, who is first?" asked the dentist cheerfully as he came into his waiting room.

"I think we are," said Mrs. Airedale, "because we started first."

"All right, Tag-a-long, hop up in the chair and we'll see what's wrong with your teeth."

Now, mind you, Tag-a-long was not afraid; oh, no, indeed. But he was a long time getting up in that chair. He had to go very slowly, you remember, very, very slowly.

The dentist got out his little mirror and he looked at Tag-a-long's teeth. Soon he reached for his little buz-buz, and he buzzed around on that bad tooth. Then after a while he said, "Hop out, Tag-a-long, we're all through."

Tige was glum.

Maybe you think that Airedale was not pleased when he found he had a nice filling in the hole in his tooth and it was all over. He had expected the dentist to hurt him terribly. He smiled a big smile and with one leap he was out of the chair and dashing happily back and forth in the room.

"Who's next?" asked the dentist.

"I think we are," said Mr. Bulldog.

"Oh, no, father, it's Lassie's turn. I shouldn't think of going ahead of Lassie. No, indeed; ladies first."

Lassie jumped up in the chair and opened her mouth wide. The dentist took out his little mirror and he looked and he looked and he looked, but he could not find a single hole in any of Lassie's well cared for teeth.

Lassie was gay.

"Well, that's what happens when you take care of your teeth," said the dentist. "Lots of milk, fruit and vegetables make strong, sound teeth. Lassie brushes them twice a day and sees her dentist every six months. That's the way to save your teeth and the way to save your money," chuckled the tooth-mender to the little collie.

"Now I think it is your turn, Tige," said his father. But Tige was afraid. He did not want to have his tooth filled and he did not want to have it pulled and he did not want to have toothache. Oh, dear, it was too bad.

"I'll not hear that youngster howl another night," said Mr. Bulldog, and he lifted Tige up and set him down in the dentist's chair.

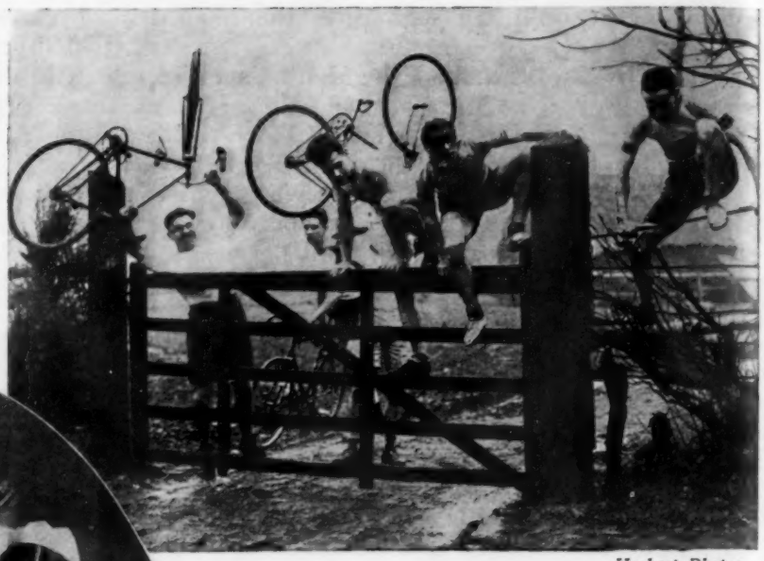
The dentist took out his little buz-buz and Tige got out his little boo-hoo and away they went, "Buz-buz, boo-hoo."

Soon the tooth was filled and Mrs. Airedale and Mr. Bulldog paid their bills and they all started for home. Of course Mrs. Collie had to pay only a small bill because she was wise and believed in PREVENTION!

"I'll have to admit your way isn't foolish, after all, Mrs. Collie," said Mr. Bulldog gruffly. "It pays to take care of your teeth. It pays; it surely pays."

BICYCLES REFUSE TO JUMP

Contestants in a recent cross country race in England had to carry their bicycles over the obstacles they met on the 6 mile course.

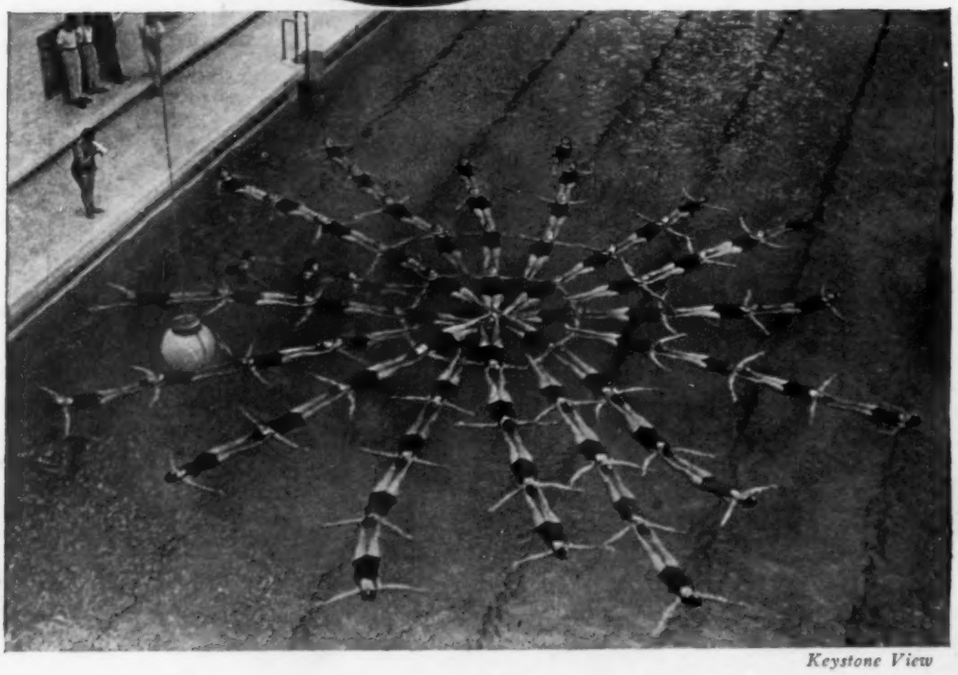


Herbert Photos

Underwood and Underwood

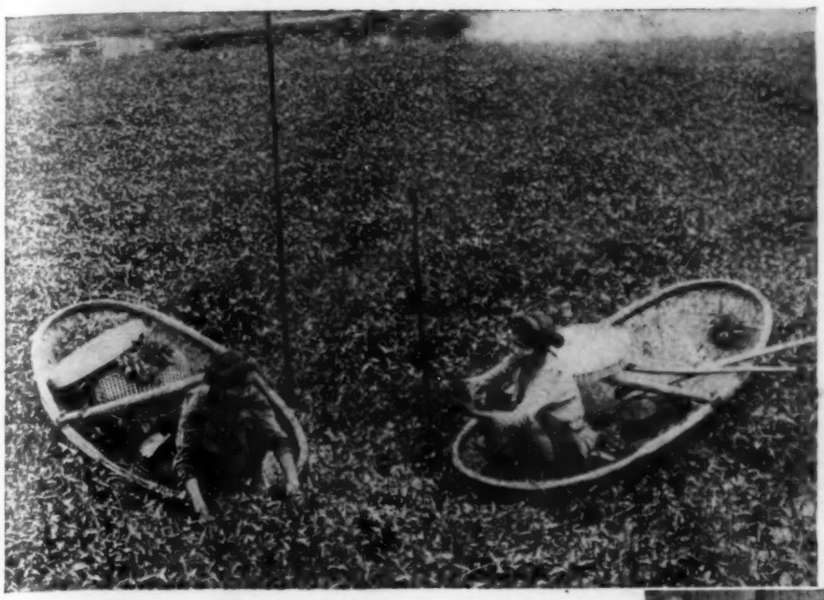
A ROYAL STUDENT OF NURSING

Princess Ingrid of Sweden, in the left foreground, with several members of the Swedish aristocracy, is having a lesson in bandaging as a part of her study of nursing.



Keystone View

SWIMMERS OF BERLIN RECENTLY GAVE THIS EXHIBITION in dance-swimming.



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SAILING A VITAMIN SEA

Spinach pickers in China go boating for their harvest. Spinach can be cultivated on many fields that are too marshy for other crops.

COSMETIC PRACTICES IN NEW GUINEA

They start early to make up their faces in Papua. These children attend a school run by the Dutch government. The facial marks are signs of cast; they probably reduce facial ablutions to the minimum.

Underwood and Underwood

Herbert Photos

FIRE FIGHTERS OF JAPAN

Japanese firemen performed remarkable feats at a recent show in Tokio.

MINERS EXPOSED TO HEALTHFUL RAYS

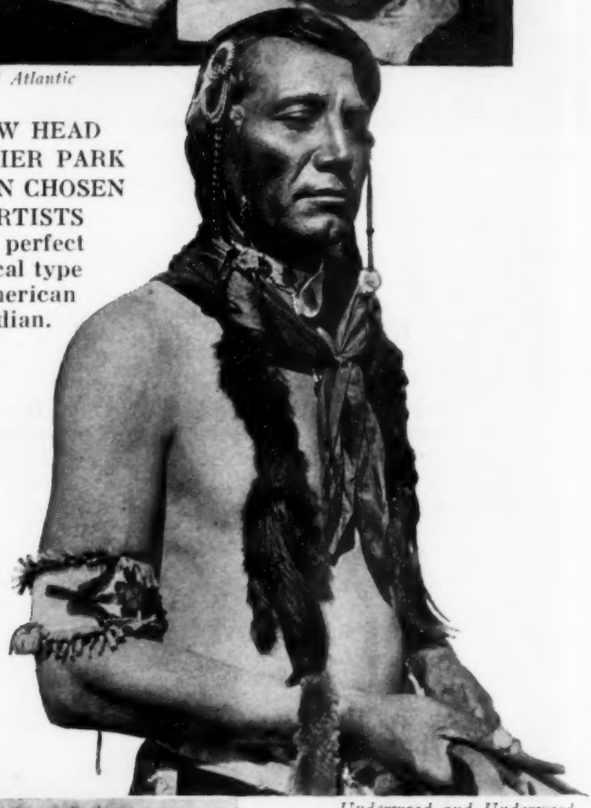
To counteract the loss of sunlight during days spent under ground, Soviet miners are being given light treatments. The U. S. S. R. government has a medical corps whose duty it is to guard the health of workers in various fields.

Acme-Pacific and Atlantic

Keystone View

Automobiles of Berlin physicians are given distinction by a lamp on the fender bearing a red cross on a green disk.

YELLOW HEAD OF GLACIER PARK HAS BEEN CHOSEN BY ARTISTS as the perfect physical type of American Indian.



Underwood and Underwood

Acme-Pacific and Atlantic

DROUGHT VICTIMS IN MISSISSIPPI

This is a typical family group of drought sufferers, such as are being aided by relief funds.

HEALTH and the SCHOOL

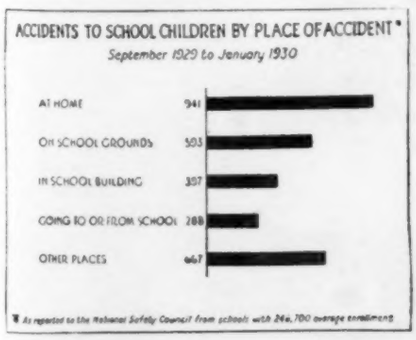
Edited by J. Mace Andress, Ph.D., 67 Clyde Street, Newtonville, Mass.

Teaching Safety — A Health Problem

WE ARE so accustomed to reading newspaper reports of single accidents and loss of life that our sensitivity to the significance of such events has become somewhat dulled. Sometimes we awake from this lethargy when some one near and dear to us loses his life. At rare intervals the nation becomes stirred over the loss of life in the burning of a building, the sinking of a ship or the collision of two express trains. Except for such startling events the great mass of citizens seems oblivious to the dangers that threaten and the methods to prevent the toll of accidents.

Auto Deaths Climb Higher

As I write I have before me a bulletin on "Accident Facts" published by the National Safety Council. There is one sentence in the first section that burns its way into my consciousness. At first it seems that it must be incorrect, but, alas, it is only too true, for it is based on a careful investigation. That sentence reads: "Ninety-seven thousand people were killed in the United States by accident in 1929." A further reading shows also that "accident experience in 1929 resembled that of other years in three respects: an increase in the total number of persons killed, an increase in the death rate per hundred thousand of the population, and a marked increase in automobile deaths. The third of these was outstanding." It seems again too horrible to be true. Little is said about those who were maimed, wounded and disfigured for life—persons who will be obliged to go on living with serious handicaps. As a result many of them will also be mentally maladjusted and some of them will be public charges.



Ninety-seven thousand lives lost by accident! These figures have a strange fascination but they mean little unless we can translate them into something more concrete. Let us think of 97,000 people marching along a public boulevard, six abreast and each person in the line of march being just 6 feet from the person in front. The line of march would be more than 18 miles long. If this huge phantom army were to march along at a fairly rapid pace it would take more than six hours to pass a given point. If we are bent on the creation of a more ghastly bit of imagination we might think of these facts in terms of funeral processions. If every funeral procession of these 97,000 victims were slightly more than a quarter of a mile long the combined processions would extend around the world.

More Casualties than in World War

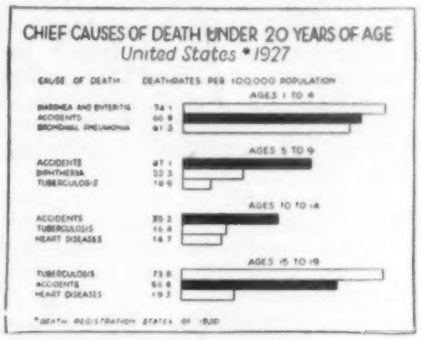
If we think of these fatalities in terms of a phantom army it would be larger than either of the superb armies of Lee or Meade at Gettysburg. It would total more than all the men that the American army lost in the World War.

How do these accidents affect children? Reports from the United States Census Bureau indicate that "accidents rank second in the causes of death to children under five years; first to children from 10 to 14; and second to children from 15 to 19. Among children of school age there is no disease that takes as many lives, or even half as many lives as accidents." Listed in the order of frequency automobile accidents lead all the rest. Among the total 97,000 fatalities it is interesting to note that 31,000 were due to the automobile. Nineteen thousand of the 97,000 victims were children under 15 years of age.

In the light of the foregoing facts it is evident that the safety movement involves one of our greatest health and civic problems. Although our streets are becoming more and more dangerous for children every year, yet more school children meet with accident at home than in any other place. Falls, burns, explosions, asphyxiation, poisons, cuts, and scratches are the chief causes of accident in the home.

The Way Out

What is the way out? First, we must provide for children a safer environment. Schools, playgrounds, gymnasiums, streets and homes should be constructed so there is a minimum of possible danger. Second, children should be trained in safety. The movement of safety education now well under way



in American schools can point to some striking results. Experience shows that in schools of certain cities such as St. Louis and Detroit, where vigorous safety programs were adopted, accidents among school children were reduced as much as 50 per cent. If similar safety education programs could be adopted in all the schools of the land it would probably mean the prevention of 10,000 deaths among school children. The opportunity for the saving of life is so great that no school can be said to be doing its duty unless it is making some effort to grapple with this problem. It seems so important to me that I have decided to devote almost all the space of the school department this month to accident prevention and safety education.

J. M. A.

TEACHING HEALTH

(In this column will be published each month concrete examples of good health teaching. Teachers are invited to send in contributions not exceeding 600 words and preferably less to the editor of this department. Illustrations of the actual work of children will be welcomed. Contributions accepted will be paid for but no manuscripts will be returned.)

DANGERS OF THE STREET

THE general purpose of teaching safety in the lower grades is to make the little children conscious of dangers and, at this time of year, street dangers in particular. To accomplish this purpose, a valuable aid is an actual excursion to a nearby play area, emphasizing all possible safety teachings as the trip progresses. What a wealth of ideas are provided for the activity periods that follow. There is the section of the neighborhood covered on the excursion to be mapped out on the floor with the play area visited in colored chalk. The sandbox is also a splendid place to illustrate "Safety Village," with its many possibilities for safe fun on sidewalks or in back yards. All kinds of borders tell the schoolroom visitor the street-safety story, whether the figures are made with chalk directly on the blackboard or are cut from paper and pasted on a long strip of oatmeal wall paper.

The daily bulletin, newspaper or reading charts that are found in many primary grades will naturally claim their quota of the children's own thoughts about safe play. The most valuable are those illustrated by the children themselves.

Rhythms and story plays give imagination and imitation a chance to work together. For example, there are balls that may be tossed and caught to waltz time, with the occasional "miss" that takes a whole measure of music in which to look both ways for approaching traffic. Children enjoy personifying danger imps of the neighborhood all scooched up looking for children playing in the street and good playground fairies who save them.

Like all civic and social problems, street dangers present a wider point of view in the upper grades. In the lower grades the emphasis is on saving one's own life. Later the emphasis shifts to attitudes and deeper appreciations.

Each school has its own play problems. They may best be determined by a simple survey of the neighborhood made by groups from the upper grades. One group designs a map of the neighborhood, showing safe and dangerous places to play. Another group makes daily reports of observations of the street and play areas. A third group pays a visit to the police station to discover the trend of accidents in the city as a whole. This accomplished, the children have a practical working basis for further spring safety activities.

The subject of safe play lends itself naturally to a correlation with the various subjects of the curriculum. Take, for example, social studies. Two vital pupil problems arise: What is the city doing to keep me safe? What does the city expect from me? By visits to various city departments, interviews, reading and letters, the children are impressed by the efforts of the street, police and recreation departments to keep them safe. If they receive the cooperation and encouragement that our children do from city departments they will become enthusiastic enough not only to choose to be careful themselves but also to influence, teach and protect the younger children. Language, art and writing periods will be needed to carry out their plans such as chalk talks and reading charts for the primary grades, cartoons or editorials for the school paper and an original play for the school assembly.

Naturally, the heaviest responsibility falls on the groups already organized to promote safety. The Safety Patrol, provided it has won the respect and cooperation of the entire student body, can handle the situation in the immediate vicinity before school. The Junior Safety Council renders its greatest service when it arranges programs for a parent-teacher meeting, thus obtaining closer cooperation between school and home. The Junior Safety Court prepares rules for the playground and vicinity and sees that the children live up to them.

H. LOUISE COTTRELL,
Stockton School,
East Orange, N. J.

SAFETY IN ELEMENTARY SCHOOL PROGRAM

A SERIES of teaching situations beginning with the early grades and extending throughout the elementary school may illustrate the subject matter of safety and the appropriate teaching procedures that bring about learning.

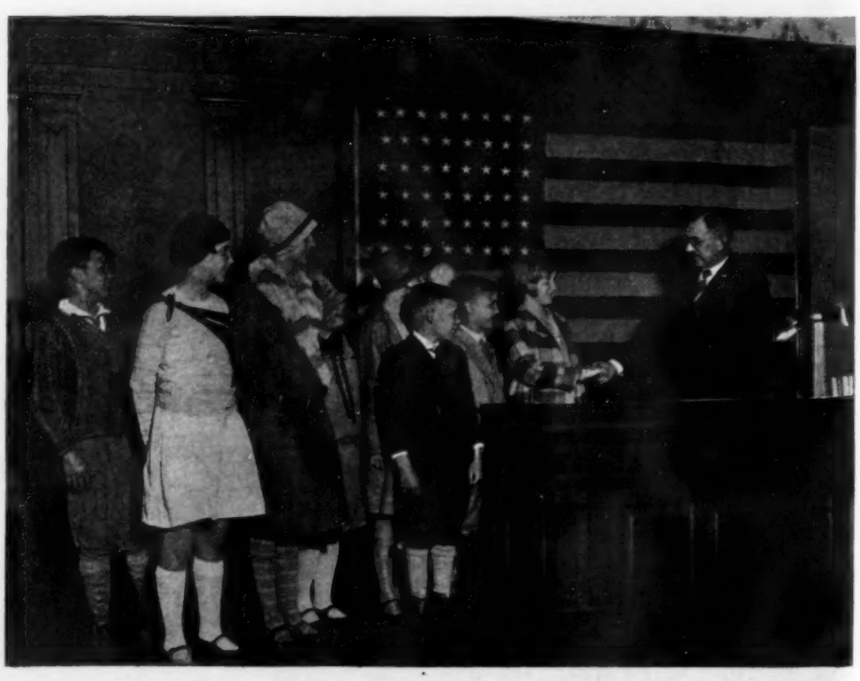
Kindergarten and Grade I

When children first enter school there are many street dangers that they do not understand. Parents have cautioned these boys and girls in regard to crossing the street with care. That caution is not sufficient to establish safe street conduct.

One of the first lessons in safety is taught through a visit to a nearby crossing. If an officer is at the crossing he tells the children just when and where to cross. They are shown the safe zones. Street signals are explained and the boys and girls practice crossing under the direction of the officer and the teacher. Later in connection with reading, bulletins, news sheets or booklets may be printed containing the safety rules learned on the trip.

Grade II

I recently visited a second grade in which the teacher and pupils were interested in finding out what helpers served the school and the neighborhood in which they lived. A play was written in which each child took the part of some helper.



The Stockton School safety court visits the East Orange traffic court as the guest of the judge.

Before writing the play these children approached all of the helpers whom they knew asking these questions: What do you do to help us? What can we do to help you?

Among the helpers were the school nurse, the doctor, the janitor, the ash man, the garbage collector, the fireman, the policeman and many others. Opportunities for safety teaching were numerous. The answers to questions were recorded on charts and illustrated by the children's drawings.

The school nurse was invited to talk to the children helping them to plan ways in which they might help her, and later to follow this talk by hearing reports of how the plans were carried out. Early and regular hours for bed, open windows, care of the teeth and proper food were features of this program.

Grade III

A winter carnival was planned and carried out by one third grade which combined an opportunity to study safe winter sports with choosing proper clothing for outdoor play. The winter sports program emphasized places where skating and sliding were safe, and proper clothing to keep warm and dry.

Grade IV

A survey of the school district showing how accidents may be decreased offers interesting opportunities. This survey might result in a district map marking such hazards as dangerous crossings, blind alleys and dangerous driveways. Helpful agencies for eliminating accidents might also be noted. Traffic signals, hospitals, fire alarm boxes and fire engine houses are some of these agencies.

Grade V

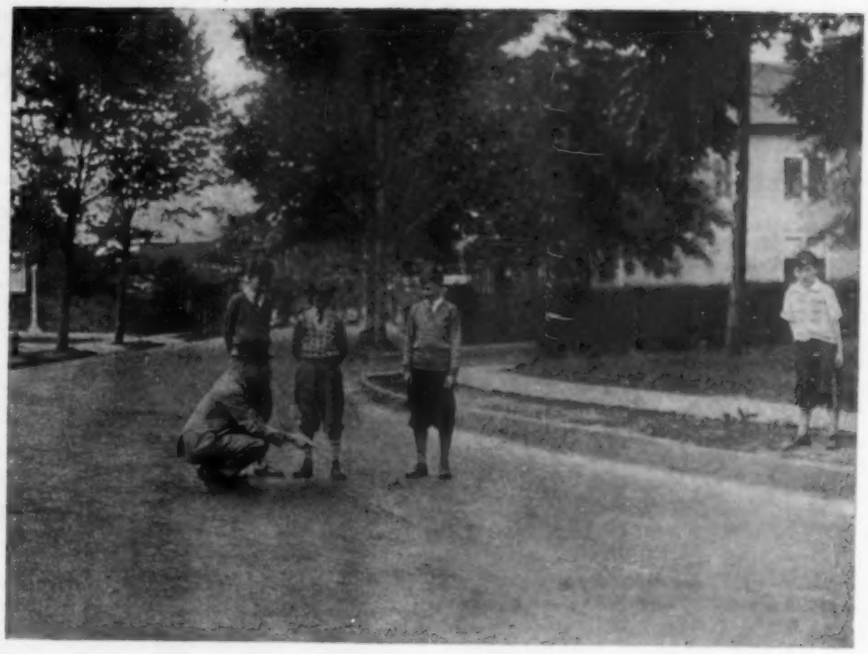
In connection with industrial geography the fifth grade children frequently visit an industrial plant. A study of the program that is carried on by the safety department of the plant is a part of the excursion. These studies might include the following: inspection laws; safety zones; devices for protection from machinery; provision against fire; first aid, recreation.

Grade VI

In a study of city government the work of the health department or of the street department offers interesting possibilities. The approach to these problems might grow out of such questions as: How much does it cost to keep our city healthy? How is our city supplied with pure water? How does our city solve the problem of traffic? Graphs or maps picture the findings in a vivid way.

The foregoing cross section from the elementary school program offers only suggestions for the safety program. The teacher must deal with her own local problem. She must know the hazards that confront her children and she may proceed with the definite purpose in mind of modifying their behavior so that accidents may be reduced to a minimum.

MARY O. POTTENGER,
Elementary Schools,
Springfield, Mass.



The city engineer explains to a sixth grade committee what the city is doing to prevent accidents. In this case the street has been widened and the curb rounded off.

SAFETY EDUCATION UNITS FOR ELEMENTARY GRADES

ONE section of the Baltimore safety course of study includes some thirty reports of units of work in safety education as tried in grades from I to VI. These experiments were carried out in practical working situations in twenty-three schools and the accounts of the teachers embody not only the principles under which the work was developed but the outcome of the principles as well. The experiments are not given in the light of finished masterpieces but only as suggestions to other teachers for incorporating safety into the daily school life of the child. A definite evaluation of the results set forth can be determined only after a much wider use of the technic and materials presented.

In one of the first grade reports the source of interest noted for the beginning of the particular unit of work was the reporting of several children in the class for jay-walking by a junior safety patrolman. The teacher, alert to the safety possibilities in the occasion, discussed informally with the children the safe way to cross the street; the protection afforded pedestrians by traffic policemen, junior safety patrolmen, traffic lights and pedestrian lanes, and the need to observe traffic regulations. A plan of intersecting streets was drawn on the floor and the children played "traffic policeman and pedestrians."

A walk was taken around the streets near the school where the children had the experience of crossing the street under the guidance of a traffic policeman, of crossing the street with the help of signal lights and of crossing the street independent of help. On their return to class a community reading unit on "Safety First in Crossing the Street" was worked out.

This fall a second grade was studying how animals, plants and insects prepare for winter. During the course of the work it was decided to take a trip to the woods to observe the seasonal changes. Discussions then arose as to the safest route to take to the woods, safe conduct on the trip and precautions to observe while in the woods.

One of the outcomes of the planning for the excursion was the knowledge that the shortest route was not always the safest one, especially if it meant cutting across railroad tracks. Others were the need for signals to keep the group together, the need for a sense of direction or an observation of the way taken, and the need to wear proper clothing, such as long woolen stockings to prevent scratches on the legs.

During these preparations it was evident that it would be necessary to be able to recognize poisonous plants and to know what to do in the event of contact with them, to know the danger of eating unknown berries, and to know that all scratches and cuts must be cared for to prevent infection. After much research and study the conclusions of the class were recorded in a booklet.

As an outcome of a discussion of summer activities a third grade class became interested in a study of transportation. Opportunities for teaching safety arose in connection with geography-history units; some occurred as an outcome of meetings of the school junior safety council and safety posters; still others were presented in preparing for the trip to the air field.

The study of safety on land and safety at sea included a discussion of safety devices on automobiles, trains and ships, of the protection afforded by traffic policemen, junior safety patrolmen, traffic lights, safety devices at railroad crossings, lighthouses and channel markings. The topic, safety in the air, resulted in a trip to the air field for first hand observation of the precautions taken to insure safety of travel in the air.

The outcomes of this unit on transportation were a feeling of the necessity for safe living because of the increasing complexities of life, a knowledge of the forethought given to protect life in travel, and a desire to share in the responsibility for increasing safety in travel.

During fire prevention week in October the interest of a fifth grade was aroused by a fire prevention poster, and one of the boys, whose father is a fireman, suggested a visit to the fire-engine house. Preparations for the proposed trip included the planning for the safest route to take, rules for safe conduct on the street and rules for safe conduct at the fire house.

The children were met by a fireman who explained the various kinds of fire apparatus, the value of fire alarms, danger of misuse, how one company distinguishes its alarm from that of another, causes and prevention of fires, and how the men live at the fire house. The trip resulted in further study of the prevention of fire, the history of the fire engine and stories of brave firemen.

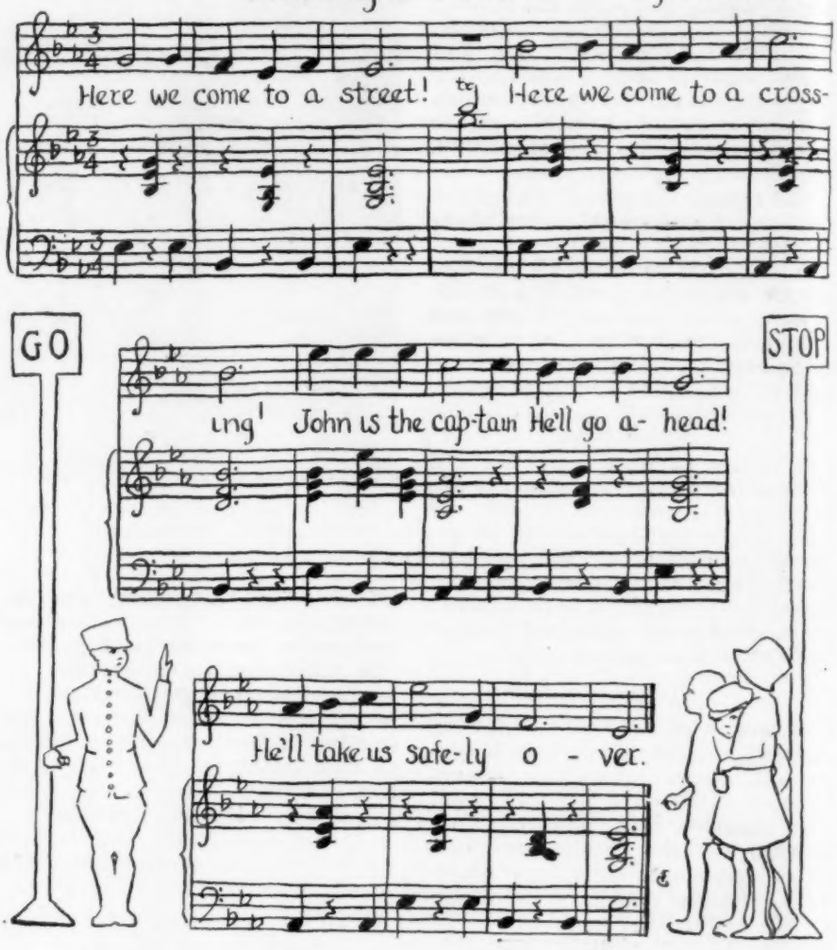
These units demonstrate that safety education is not something extraneous but that it belongs to the whole life of the child and that it must be a part of his experiences at home, on the street and at school.

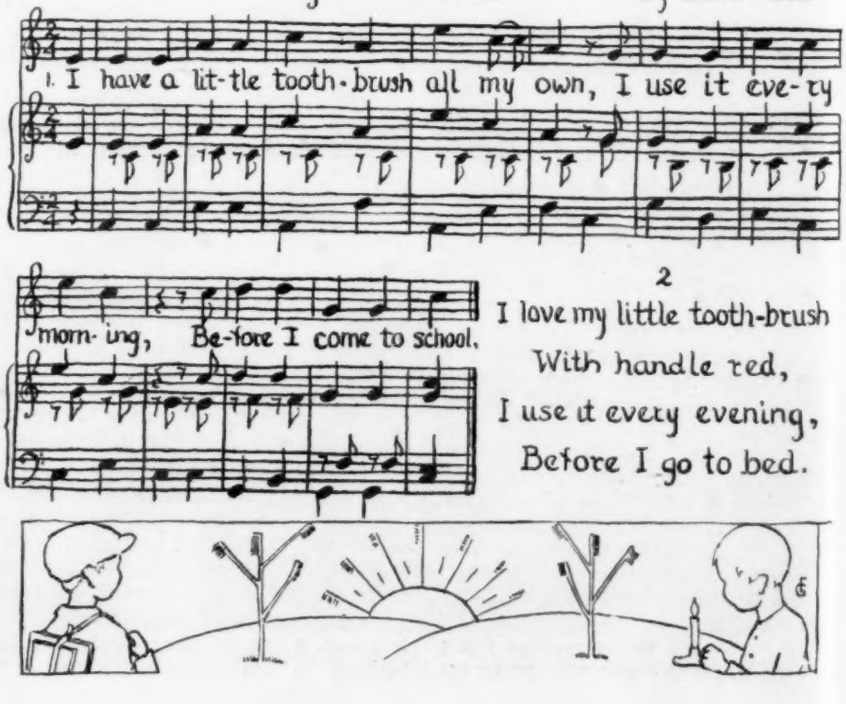
EMMA A. SCHAD,
Elementary Schools,
Baltimore, Md.

HEALTH SONGS FROM THE KINDERGARTEN

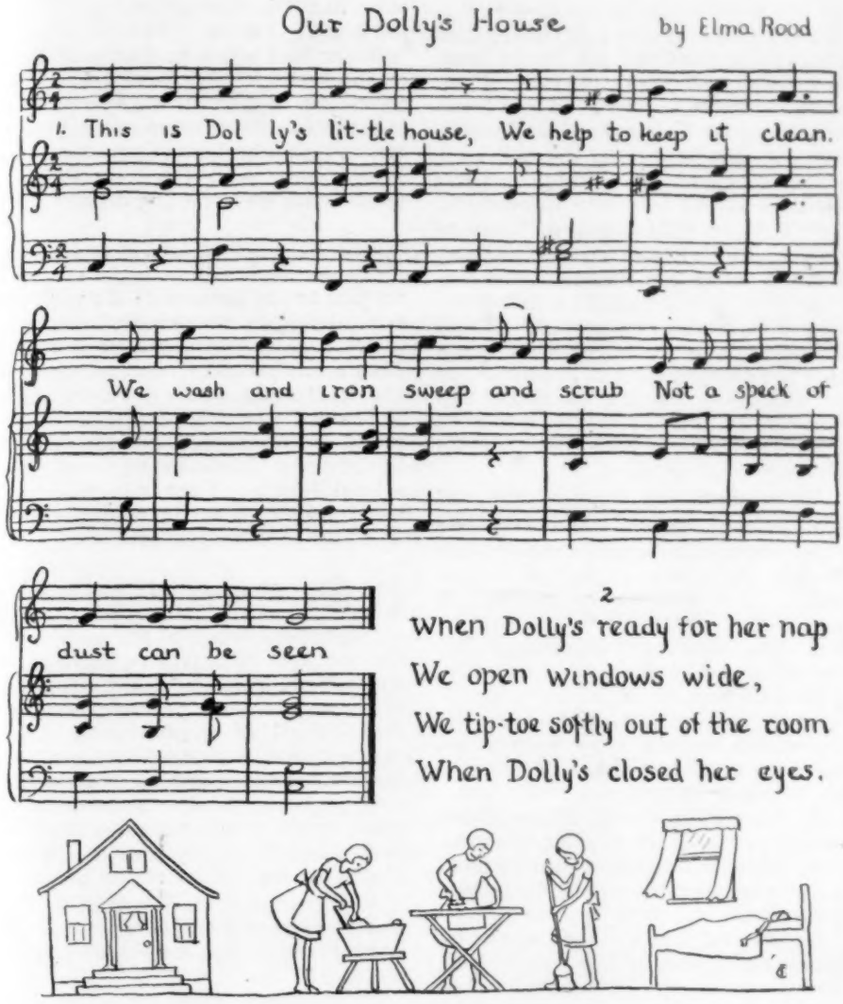
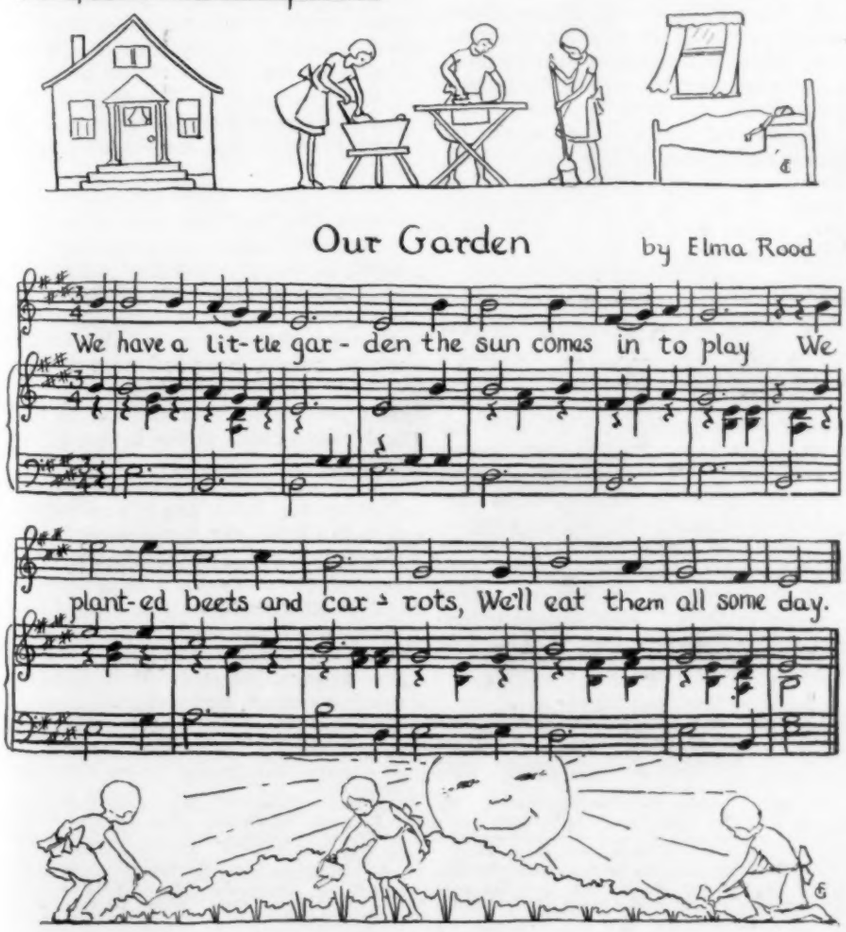
THESE health songs were worked out in the kindergarten of the Demonstration School of Peabody College, Nashville, Tenn. They followed

Crossing the Street

by Elma Rood

My Tooth-brush

by Elma Rood

1. I have a lit-tle tooth-brush all my own, I use it eve-ry
morn-ing, Be-fore I come to school.
2
I love my little tooth-brush
With handle red,
I use it every evening,
Before I go to bed.

the suggested health activities that were made a part of their daily school living. This creative work has its greatest value not as music but as a means of intensifying memories of pleasurable health activities and thus it encourages the child to continue the health program.


Our Dolly's House
by Elma Rood
1. This is Dol ly's lit-tle house, We help to keep it clean.
We wash and iron sweep and scrub Not a speck of
dust can be seen
2
When Dolly's ready for her nap
We open windows wide,
We tip-toe softly out of the room
When Dolly's closed her eyes.

Our Garden
by Elma Rood
We have a lit-tle gar - den the sun comes in to play We
plant-ed beets and car - rots, We'll eat them all some day.

NEW HEALTH BOOKS AND TEACHERS' MATERIALS

CHANGES in educational aims, values and methods occur so rapidly today that if the teacher and school administrator do not have the right personal contacts and do not read current literature they are back numbers. One of the ways to keep up to the hour in safety education is to read regularly the magazine by that title.[1] It is a thoroughly modern magazine in every respect and it numbers among its contributors men and women of national standing. It is devoted to practical methods of teaching. It should be in every public and school library.

The February number is fairly typical of what may be expected in every monthly issue. Among the brief and pointed editorials we read that every teacher in New York City who seeks to teach health and to secure a license must outline a suitable program that would tend to prevent accidents to a high school boy. Candidates are also expected to list nine school situations in which a high school boy might be liable to sustain accidental injury.

In the same issue R. H. Irwine contributes an article on "Measuring Results of Safety Teaching." One method of measurement that seems to the author to promise much is in the field of student accident reporting. Such reporting makes it possible for the school to understand what accidents happen and why. This enables the school authorities to recognize weaknesses in the safety program and to correct them. There are other articles on "How the Safety Movement Began" by Lewis DeBlois, "Changing Attitudes of Children" by Mary O. Pottenger, and "One Inch—Keep Off" by Fred C. Mills, besides stories, studies and book notes.

THE superintendent of schools at Madison, Wis., a practical school man, is successful in cramming into these few pages [2] much sound theory and common sense on safety education in the high school. The kind of safety education adapted to the elementary school and the junior high school will be less effective with older pupils. "Boys and girls in the period of later adolescence," says Superintendent Gosling, "are exceedingly self-conscious and sophisticated. They tend to hide their real feelings under a mask. These conditions are not to be con-

1. Safety Education, a Magazine of the Good Adventure. Pp. 142. National Safety Council, 1 Park Avenue, New York.
2. Safety Education in the High School. By Thomas W. Gosling. Pp. 8. National Safety Council, 20 N. Wacker Drive, Chicago, 1930.

demned but rather to be accepted as natural concomitants of one period of life. They are sign posts which point the way to wise teachers showing paths to be avoided as well as paths to follow. . . . The habit formation of the elementary school and the service ideal of the junior high school will continue through the senior high school. The stress, however, will need to be placed at a new point. Investigation and the application of findings to more purposeful living harmonize with the age and the intellectual level of senior high school students."

LEADERS of safety campaigns and teachers and pupils interested in safety education in the upper grades or in the high school will be vitally interested in the statistical facts and graphs in this unusual bulletin.[3] Teachers who are planning a course of study in health and safety would do well to consult it. Some of the questions as to what should be taught and the relative importance of different topics could be decided largely on the basis of concrete facts presented.

SAFETY education is necessary in every grade of our public schools but there are particular reasons why it should be a part of the instruction of every vocational school. Pupils in these schools are not only subject to the hazards of all pupils in every school but there are special ones by virtue of their being in a vocational school. There are the hazards of the school shops and also the necessity of training that will enable them to meet in a better way the dangers found in the industrial pursuits into which they will enter.

This treatise[4] is the result of the careful work of Dr. Henig, who worked out his curriculum in the Essex County Vocational School for Boys at West Orange, N. J. His method should be a model for all those who wish to do a similar piece of work. For three years he gathered information on the causes of school accidents. Then these data were analyzed to discover the means of prevention. The curriculum was based on information that was applicable to the school in the light of the accidents experienced there as well as in industry. The first year that this curriculum was put into effect there was a reduction of 44 per cent in the number of accidents.

This thorough study is just one more bit of concrete evidence of the power of the school to influence human life and to save accident and death by systematic planning and good teaching.

IT HAS been assumed by psychologists and educators generally that positive suggestions are better than negative, and some writers have stated that negative suggestions should never be given. Dr. Vaughn has put this matter to the test in a series of carefully planned experiments relating to safety education.[5] There were individual differences noted but negative suggestions seemed to have a slight superiority over positive suggestions in reducing undesirable responses. Adult behavior is more affected by negative instruction than is the behavior of children. There is some improvement noted when there is detailed instruction in either a positive or negative form.

The laboratory experiments are summarized in these propositions:

1. Verbal instructions unsupported by other forms of stimulation are relatively ineffective, especially with children.

2. The effects of warnings and threats are transient, especially with children.

3. Demonstrations of the manner in which injury may take place have more effect than mere positive or negative directions.

4. Actual experience of the effects of wrong reactions is most effective.

5. Drastic threats or punishment may occasionally inhibit desired behavior.

This careful experiment opens up a new field in psychologic research, but the results need to be worked over in actual school situations before they will have much to offer to the teacher.

WHAT should be the objectives of safety education in the secondary schools? What materials for this instruction are now available? These were the two most important questions that Dr. Stack undertook to answer in his important study.[6] His investigation led him to make an analysis of the hazards of modern civilization, to make a study of the safety items in various textbooks and to deal with the construction and use of safety education tests. High school teachers and administrators should find this publication helpful.

THE former method of getting out a course of study was to copy or at least blindly imitate those that had already appeared and add something in the way of general theory. The progressive school system today attempts to find out something about its local needs and base some of its instruction on those particular needs. This tends to make school work practical as well as interesting. Dr. Streitz has prepared an important study[7] on the technic for developing subject matter. It should be of genuine help to all those who are interested in courses on safety education.

THE Mellon Institute of Industrial Research is rendering a distinct service to the housewife through its radio talks on science and subjects relative to home and public welfare. This series of talks[8] was adapted to the housewife and considers such important topics as the well planned kitchen, good meals for the young homemaker, and the school lunch. They should be of special interest to housewives and teachers of domestic science.

IF ANY program of health education is to be a success it must get the cooperation of the home and the school. Miss Helena McCray, a live supervisor of health in the state of Pennsylvania, has prepared at the request of Pennsylvania Congress of Parents and Teachers this booklet[9] of projects so that teachers, pupils and the parents may work together on something definite each month. The parent's questionnaire for February follows:

1. Have you read carefully the report of your child's health examination made by the school physician?

2. Is there any condition reported that has not had attention?

Handicaps such as defective eyesight, hearing, teeth and other defects may hinder your child in the enjoyment of the best health or in making the progress in school which might be possible for him.

3. Are there any things you can do or measures you can use to protect your child from these handicaps?

Sending a child regularly to the dentist (at least once a year) to give the teeth the needed care, providing proper light when the child is reading or working at home, taking proper care of the throat and all colds to prevent infection from reaching the inner ear are some of the preventive measures for the most common handicaps.

3. Accident Facts, 1930. Pp. 50. National Safety Council, 20 North Wacker Drive, Chicago, 1930.

4. Safety Education in the Vocational School. By Max S. Henig, Ph.D. Pp. 110. National Bureau of Casualty and Surety Underwriters, New York, 1928.

5. Positive versus Negative Instruction. By James Vaughn. Introduction by Charles Judd. Pp. 172. National Bureau of Casualty and Surety Underwriters, New York, 1928.

6. Safety Education in the Secondary Schools. By Herbert James Stack. Pp. 157, National Bureau of Casualty and Surety Underwriters, New York, 1929.

7. Safety Education in the Elementary School. By Ruth Streitz. Pp. 142. National Bureau of Casualty and Surety Underwriters, New York, 1926.

8. Science in the Kitchen; the Selection, Care and Service of Foods. Price, 60 cents. University of Pittsburgh. Radio Publication No. 58, 1930.

9. The Home and the School Working Together for the Child. By Helena McCray. Pp. 8. Pennsylvania State Department of Health, 1930.

New Books on Health

HOME CARE OF INFANT AND CHILD

By Frederick F. Tisdall, M.D. Price $3. Cloth. Pp. 292. William Morrow & Company, New York, 1931.

DR. TISDALL is director of the nutritional research laboratories of the University of Toronto. He is already known by his contributions to the science of the feeding of infants. In this book he presents good advice to mothers on the care of the baby, and his presentation of the subject has been greatly helped by his publisher, who has made it a well printed book with numerous pictures. Dr. Tisdall writes so that any one can understand, and he answers all of the questions that most mothers ask of their doctors. The book covers not only the question of feeding, but first aid, clothing, play, the common infectious diseases and similar subjects. One of the concluding chapters is a sound statement on the matter of the child's behavior.

There are so many books of advice to mothers on the care of the child that it is well nigh impossible for any one to write a different book on the subject. Dr. Tisdall's contribution ranks high in its field and may be fully recommended.

MORRIS FISHBEIN, M.D.

PLAY DAYS FOR GIRLS AND WOMEN

By Margaret M. Duncan. Pp. 87. Illustrated. Price $1.60. Published by A. S. Barnes and Company.

THIS book is written for that limited group of readers interested in providing or organizing a play day. To those familiar with the play day idea but unfamiliar with the multitudinous details of organization on which the success of a play day depends, this book should prove a great help. It specifies the possible activities to be used, such as team and group games, folk dances, stunts and posture parades. It suggests possible uses of a playing space organization of activities in squads, preliminary arrangements necessary, and many other helpful details.

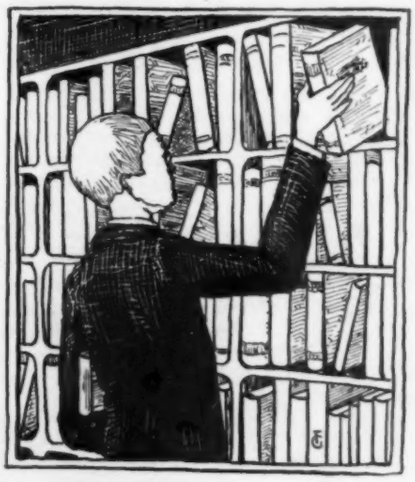
To that ever increasing number of persons interested in the physical and social activities of the adolescent girl, to whom the "play day" idea is unfamiliar, this book will be highly significant. It is written primarily for the trained physical educator who is familiar with the events indicated. Other readers will perhaps find it necessary to consult trained workers for help in understanding some of the chapters.

"Play Days for Girls and Women" should find a warm welcome in the library of all schools possessing a large open play space available for use by its young women on a Saturday in May or June. LILLIAN KLEIN.

CHILD HEALTH

By Mrs. Norma Selbert, R.N., B.S., A.M. Cloth. Pp. 261. Price $1.60. W. B. Saunders Company, Philadelphia, 1931.

THE author teaches child care and has classes in adult education in Ohio State University. This book on the care of the child is pocket size, and represents the best of the material from the extensive literature on the subject. The volume begins with the evolution of child health work and of problems affecting the growth of children. It then provides in six or seven chapters a guide to the care of the child,



and concludes with chapters on health problems in the high school, in the universities, child labor, the use of leisure time and some miscellaneous material on the preparation of food.

Mrs. Selbert has been a contributor to HYGEIA, and many readers will remember her series of articles on "The Home Care of the Sick." Her new book is of the same style and quality as that series. M. F.

TALKS ON TUBERCULOSIS

By John B. Hawes, 2d, M.D. Price $2. Cloth. Pp. 179. Houghton Mifflin Company, Boston and New York, 1931.

FEW types of patients can be so greatly helped by advice in the form of the printed word as can the tuberculous. There are numerous books printed especially for them. The contribution by Dr. Hawes is one of the best for the purpose. He describes the disease and its method of spread; he gives practical advice on the care of the disease at home and in the sanatorium. He discusses the special factors of climate, diet, occupation, sunlight and open air treatment. He discusses the literature on the subject and concludes with some fine aphorisms selected from competent contributors. The book is printed in large type and is easily readable. M. F.

PHYSICAL CAPACITY TESTS

By Frederick Rand Rogers. Price 75 cents. Cloth. Pp. 50. A. S. Barnes and Company, Inc., New York, 1931.

NORMALS have been established for height and weight for different ages and for many of the functions of the human body. Among the most important facts to be determined about any individual is his physical capacity. In other words, just how much can he do without becoming exhausted or without overtaxing his strength. In this little book, Mr. Rogers presents the technic of tests for finding the vital capacity of the lungs, the strength of the hands, back and legs, lifting ability, and the pull-up and push-up tests. He then indicates the significance of these tests and tells also the places in which the apparatus mentioned may be purchased. M. F.

CARE OF THE INFANT AND CHILD

A BOOK FOR MOTHERS AND NURSES. By Harry R. Litchfield, M.D., and Leon H. Dembo, M.D. Cloth. Pp. 138, with 15 illustrations. Waverly Press, Baltimore, 1930.

HERE is another of the numerous books prepared for mothers and nurses by specialists in diseases of children. This volume is concise; the material it contains is sound; the printing is good, but one misses the attractive illustrations that add to the value of some other books in this field. M. F.

QUESTIONS and ANSWERS

X-Ray Treatment for Sinus Infection

To the Editor:—Are x-rays ever used in treatment of sinus trouble in which there is considerable pus formation? Do infra-red rays or ultraviolet rays prove beneficial in such cases?

F. H., Pennsylvania.

Answer.—So far as we are aware, the x-rays, infra-red rays and ultraviolet rays have proved to be of no specific value in the treatment of sinus trouble, although they have been much used. In skilful hands, it is warrantable to try the rays, when operative procedures are not permissible; x-ray treatments should be taken only on the advice and under the direction of a physician familiar with their use.

Care of Tooth Brush

To the Editor:—I have a tooth brush holder made of aluminum which has a tiny compartment inside filled with absorbent cotton. The man selling this article also sold a small bottle of liquid called Dento. Every fifteen days a number of drops of Dento, I believe fifteen of them, are to be applied to the absorbent cotton in the holder in order to disinfect the tooth brush also contained in the holder. These products were sold in a house-to-house canvass by a man representing the Dento Laboratories, Galesville, Wis. Will the continuous use of a tooth brush enclosed in a holder of that kind prove injurious to the teeth? Also, of what is Dento composed?

L. H. R., Wisconsin.

Answer.—We are not familiar with the Dento tooth brush holder, but we do not regard any device of this sort essential to the proper care of a tooth brush. We submitted this question to a recognized authority in dental hygiene, who makes the following suggestions:

Do not keep a brush after the bristles have become softened and bent or matted. It is well to have at least two brushes, alternating their use from day to day so that one brush may dry out and regain its bristle stiffness while the other is in use. It is well to wash out a brush with soap and water at least once a week, rinse it well in hot running water, shake out the excess moisture, sprinkle a liberal amount of salt into the bristles and hang it up to dry.

Furthermore, it is desirable to keep the brushes of each member of the family well separated from the others to avoid contamination.

Carbuncle

To the Editor:—A head carbuncle developed; it was lanced and cared for. Then sugar was discovered in the urine. That seems to have been corrected but acidity persists. I should like to arrange my meals so the person so affected will get plenty of good, nourishing food, minus anything that will aggravate this trouble. The physician in charge gives a few suggestions but he is somewhat noncommital; I should like, if I can secure it, a list of foods that are perfectly safe.

M. E. S., Illinois.

Answer.—A condition in which a carbuncle has developed, with sugar in the urine, is one that may be serious. It is not possible to indicate to the patient in such a case what diet is best without an examination.

The physician should indicate the diet and he should prescribe those foods that will correct any acidity that may be present.

Examination Before Marriage

To the Editor:—Is it best that I have a medical examination before marriage? Should it include a blood test? Is the expense justified? In my family there are thirteen children, all living. There never has been evidence of venereal disease. I am 24, in good health, inclined to be fairly nervous. Menstruation is regular, but I am subject to backache at times.

L. S., Washington.

Answer.—By all means have a careful examination by a competent physician before marriage. This is always wise, no matter how well one seems to be. One ought to have a physical examination at intervals throughout life, but there are certain critical periods when this is of especial value. They are, first, at birth; second, when school life begins; third, at the beginning of puberty; fourth, before marriage; fifth, in the case of woman, when she finds herself pregnant, and, sixth, at the first symptoms of the menopause.

The expense of an examination should not be excessive. It depends on the physician and the charge should be agreed on in advance.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a two-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

Nasal Ulcers; Vincent's Angina

To the Editor:—1. Last summer I had both antrums opened and the septum of my nose straightened. Ever since then I have been bothered a good deal with nose bleed caused by the formation of ulcers. Could cancer develop from this? The surgeon who operated has given me a number of treatments since, and the ulcers do not form as frequently now but the condition worries me. 2. What causes Vincent's angina? Is a person who has had it likely to get easily reinfected?

B. M., Maine.

Answer.—1. Cancer is not likely to develop from an ulcer such as the one described, although there is a remote possibility.

2. Vincent's angina is caused by two specific organisms acting together and reinfection may occur, though not usually.

Iron Springs

To the Editor:—From your magazine I learned that Warmbaths, in the Transvaal, South Africa, is endowed with waters of strong iron content. This interests me as I have been advised that my constitution is in need of that mineral. Will you kindly inform me whether or not iron springs exist in this country? I have been told that there is iron in the water of Excelsior Springs, but this information may not be authentic.

J. F. M., Colorado.

Answer.—There are many springs in this country that contain minute quantities of iron, but the iron that is needed by the body can usually be much better obtained in food than in water, and also by taking standard preparations of iron, such as tincture of ferric chloride and other preparations. These should be prescribed by a physician.

Fasting

To the Editor:—What are your views on a complete fast for the disease multiple sclerosis. What would be the effect of a fast of from thirty to forty days on a girl 20 years old? Would it be harmful? What would be the general outcome?

C. E. C., Illinois.

Answer.—There is no good evidence that fasting would have any material effect on such a disease as multiple sclerosis, except to make the patient uncomfortable and unhappy during the fast or at least during part of it. Fasting has been tried by some competent observers, one of whom, a professor of physiology and a recognized authority in this field, states that rarely is it of any use in disease. Of course, abstinence from food for a short time is often helpful in certain diseases of the stomach or the bowels or of other parts.

Prolonged fasting in a disease such as multiple sclerosis would probably have distinctly harmful effects, because it would weaken the strength and resistance of the patient.

Goiter; Shortness of Breath

To the Editor:—A few years ago a girl of 18 had an operation for goiter, which was successful, but she has been short of breath since and appears to breathe with difficulty, especially when climbing stairs. Is there any way to overcome this condition? What happened to the trachea to cause this condition? The girl has about one fourth of a normal gland left. E. B. J., Michigan.

Answer.—It is impossible to determine the cause of the shortness breath in the young woman, except by a personal examination and a study of the signs and symptoms. It is unlikely that it is due to any trouble with the trachea, which is not involved in an operation of the thyroid gland. It is, of course, among the possibilities that her hyperthyroid condition exists in spite of the removal of the major part of the gland. This sometimes happens. She should be examined again, preferably by the physician who had her case in charge at the time of the operation.

Chorea, Acute and Chronic

To the Editor:—I should like to know the cause of St. Vitus' dance. Are cases in children and adults from a like cause? Is there any known treatment or cure? Is it hereditary?

A. D. G., Massachusetts.

Answer.—St. Vitus' dance, one form of which is acute chorea, is a disease, probably an acute infection, chiefly affecting children. It is characterized by irregular involuntary movements of various muscles of the face, tongue, arms and other parts of the body, a variable amount of psychic disturbance, and a liability to acute inflammation of the lining of the heart. In a large percentage of cases, there is a history of rheumatic fever. Nearly three fourths of the cases are found in girls.

Chronic hereditary chorea, otherwise known as Huntington's disease, is a hereditary disease characterized by irregular movement, disturbance of speech and mental deterioration. It is a disease that appears between the ages of 35 and 38, and is associated with other nervous disorders, such as feeblemindedness and involuntary convulsions.

The chronic and acute forms of chorea are not identical.

Tetanus Antitoxin

To the Editor:—Please give me information to be used at a boy's camp. How long does tetanus antitoxin make a person immune? One doctor tells me for only three weeks. If this is the case and if it was necessary to give the boy the antitoxin twice in one month, would it be dangerous? How soon after a boy has had toxin-antitoxin or other inoculations can tetanus antitoxin be given with safety? We have had several bad reactions and should like all the information you can give us.

C. L., New Jersey.

Answer.—Passive immunity induced by the administration of tetanus antitoxin usually lasts from ten days to three weeks. The longest recorded period is, it seems, six months. Man is much less susceptible to anaphylactic reactions than are guinea-pigs and rabbits.

Gibson says: "In spite of close inquiries on the subject no certain instance of true anaphylaxis [among soldiers given prophylactic doses of tetanus antitoxin during the war] has been recorded. The few cases that have been mentioned in the reports for each investigation turned out to be instances of serum sickness and to have had no grave results. It does not, therefore, appear to be justifiable to withhold the serum in the case of a man wounded for the second time."

If the patient is subject to asthma, hay-fever or other recognized allergic disease, precautionary measures should be used, such as the preliminary inoculation of two or three drops of the serum followed in five or ten minutes by 0.5 cc. If no acute reaction follows these preliminary injections a full dose may then be administered with safety. Serum sickness with edema, urticaria, joint pains, vomiting and malaise may occur a few days after the second injection. This is usually of short duration and the prognosis is good. The use of tetanus antitoxin after a previous injection of toxin-antitoxin should be governed by the same principles as those that apply to a second injection of tetanus antitoxin.

Poison Oak Dermatitis

To the Editor:—On a vacation trip to California I got poison oak poisoning. Is Broemmel's poison oak immunizing mixture valuable? What is the most reliable recognized treatment for these poisonings; also preventive measures when one knows he has come in contact with the plants? What precautions should be taken to prevent spread of the poisoning by clothes or towels? Does washing in soap and sunning leave them free of any poisoning agencies? Would boiling help? Does the infection seem to be spread by bathing? Does it seem to break out from poisoning within the system?

L. L., California.

Answer.—Poison oak dermatitis in California is practically always due to one variety of Rhus; namely, *Rhus diversiloba.* If too long a period has not elapsed between the exposure and the opportunity to bathe, a hot bath, using liberal quantities of strong soap, is a good preventive. This should be done within a few hours of exposure. If the eruption has already started, it does no good. The eruption first appears at all points of the skin which have been in direct contact with the plant or parts to which the poison has been carried by the hands or clothing. Later, usually in about one week, the eruption may appear at other points of the body. Theoretically this is caused by a dissemination through the system.

The spread of the eruption does not take place from the secretion of the blisters. Clothes that have been in contact with the plant can produce the dermatitis for a considerable time if not washed. Local applications have little effect on the progress of the eruption. They are merely helpful in alleviating the itching. A 3 per cent solution of ferric chloride, if used promptly at the beginning of the eruption, may neutralize the poison and prevent its spread. This must be used carefully, as it is irritating.

Poison oak extract (Broemmel) is useful. It seems to shorten the course of the dermatitis materially, especially if used in the hypodermic form. The preparation recommended to be taken by mouth is of considerably less value. An excellent small book on this subject is "Rhus Dermatitis" by James B. McNair, published by the University of Chicago Press, 1923.

Milk for Protein Therapy

To the Editor:—May I have the details of the preparation of sweet milk for injection in nonspecific protein therapy? Can you tell me if the results of this treatment will warrant its use in acute and chronic salpingitis?

W. T. T., North Carolina.

Answer.—When milk is used to secure protein shock, either whole milk or skimmed milk is used. It is boiled to insure sterility and then is injected either into a vein or into some of the deeper muscles. When injected into a vein, usually about 5 cc. are given at a dose; injected into a muscle, somewhat less is given.

Fever follows intravenous injection, usually within the course of two or three hours, accompanied by a chill.

The injection is not usually repeated more than twice a week.

We have no reports on its use in the condition mentioned.

Life Expectancy in Diabetes

To the Editor:—If the health of a diabetic patient seems to be normal in every other way, is there any way of telling her life expectancy? Are there any prenatal effects of diabetes? Are there any tendencies transmitted to the offspring? Is it possible or even feasible for a diabetic person to produce offspring?

E. C. R., Georgia.

Answer.—The life expectancy of a person with diabetes is at present undergoing considerable change. This change is due to the fact that insulin, which has been used only since 1922, is making it possible for most diabetics to prolong their lives many years beyond the expectancy period of pre-insulin days. When diabetes is really present, it makes little difference whether "the subject's health seems to be normal in every other way," because diabetes untreated is a progressive disease in the vast majority of instances.

Regarding the prenatal effects of diabetes or the transmission of the diabetic tendency to offspring, all that can be said is that there are numerous instances on record in which diabetes has been present in many members of a family.

The relation of diabetes to pregnancy has received considerable attention of late. As the study of the disease progressed it was learned that diabetes is by no means the fearful illness it was formerly considered to be in pregnant women. There are even mild types that cause no worry to the intelligent physician. A woman with the severer type of diabetes can under proper medical management be carried through to normal delivery. But it must be emphasized that this treatment requires the greatest care and the best knowledge available. When this is not feasible, a diabetic woman should not become pregnant.

Arima Antituberculosis Treatment

To the Editor:—Has any one gone to the trouble of verifying the statement made at the September Congress of Physics held in Berlin of an antituberculosis serum that has been developed by Professor Arima of Japan?

O. W., Texas.

Answer.—In 1924, Arima, Aoyama and Ohnawa of the Tuberculosis Sanatorium, Osaka, Japan, found that tubercle bacilli grown on mediums containing saponin lose their virulence and acid-fastness (tested by Ziehl-Neelsen staining). The saponin culture "A. O." was named after its originator. The saponin chosen is able to remove the fat content of living bacilli, especially from certain strains of human tubercle bacilli, and these were preferred for producing immunity in rabbits and guinea-pigs. Tests on 180 animals originally used revealed immunizing properties in rabbits and guinea-pigs previously vaccinated and protection against a progressive infection. In animals a preferred preparation, "A. O. no. 25," produced a definite protective immunity.

The "saponin bacilli" retain their protoplasmic activity and produce immunity. Even six months after preparation of the saponin vaccine, the bacilli can again be transformed on suitable mediums to a form that is pathogenic, or virulent, for guinea-pigs. The authors claim that more than 3,000 guinea-pigs were used in their immunity tests. In order to destroy all virulence of the saponin cultures, the bacilli are suspended in physiologic salt solution and kept for a year at ice box temperature. It is stated that this procedure destroys the pathogenicity, or virulence, without diminishing the immunizing property.

The pathogenicity of a germ is dependent on its ability to grow on transplants and to produce toxin, while its immunizing property is dependent on its protein bodies. With this assurance and that of animal experiments, "A. O." was first tried in four cases of tuberculosis —two suspects reacting to tuberculin, and two with tubercle bacilli in the sputum. The inoculations proved to be "almost harmless," with an occasional abscess at the site of inoculation. There followed an increase in body weight and a decrease in their coughs and in the amount of sputum raised. By the end of 1925, "A. O." had been used on 10,000 cases with a total of more than 40,000 injections, and in no case did an infection result. Forty thousand cases tried by others also indicate the harmlessness of the procedure.

The therapeutic action of "A. O." is considered greater the earlier in the disease process it is used, such as in glandular disease or in acute exudative conditions. In chronic cirrhotic forms, "A. O." acts favorably, but the dosage must be diminished and the interval and number of injections increased.

Th. J. Burgers of Konigsberg was unable to demonstrate the complete loss of acid-fastness on the saponin mediums. His guinea-pig experiments were also not as encouraging. Burgers also calls attention to the possibility of avirulent bacilli, under the secondary influences in the human body, becoming virulent again and points to the fact that future clinical observations will have to determine the curative value of the "A. O." procedure.

Juvenile Diabetes

To the Editor:—We have a child, 10 years old, who has had diabetes for two years. He has been on a special diet and on insulin treatment during that time. How long do you think a child of his age can live by using insulin? He weighs 67 pounds and he does not get half what he wants to eat. He is hungry most of the time.

J. D. L., Texas.

Answer.—Since the development of insulin treatment the child handicapped by diabetes yet normal in other ways, if properly handled, will develop physically and mentally as does the normal child and will successfully fill his place in the world, succumbing either to old age or to some disease other than diabetes or its complications.

The great majority of diabetic children require insulin, yet the most important thing is a proper dietary prescription, altered from time to time to meet the child's natural physical development and increased activities. Diabetic children are no longer semistarved. They look and act normal.

With an adequate supply of calories, especially in carbohydrates, unnatural hunger is relieved by keeping the blood sugar normal with insulin, and by giving the carbohydrate portion of the diet in the vegetables of the 3 per cent and 6 per cent group of carbohydrate content and in fruits of the 5 per cent and 10 per cent group, thus increasing the size of the meals. If the attending physician approves, some of the carbohydrate portion could be saved for a small between-meal helping.

The important point is so to feed and train the child that he will not cheat but will follow closely his dietary prescription.

Detached Retina

To the Editor:—Will you please give me information as to the cause, treatment and result of detachment of the retina? Would one eye thus affected endanger the other eye?

E. B. E., Washington.

Answer.—The retina is the inner layer of the posterior half of the eyeball and is formed by an expansion of the optic nerve, the nerve of sight. This membrane lies against the next layer of the eyeball, the choroid, but there is no continuity of structure between the two, so a separation can easily take place. This separation is called "detachment of the retina."

Some of the causes are: inflammations that cause effusion of serum between the layers; injuries that cause effusion of blood between the layers; tumor, and myopia, especially of the progressive type. Oftentimes no cause can be found.

Progressive myopia, which is noninflammatory, is no doubt the most common cause and the detachment is due to the anterior-posterior axis of the eyeball increasing until the retina can no longer hold its place against the choroid and the detachment takes place. The result is most serious.

It sometimes happens when the detachment is due to inflammatory causes that the detached portion will reattach itself temporarily, soon to detach itself again, because of atrophy or loss of nutrition. It increases in size and produces increased blindness.

In treatment, in case of inflammation, the patient should be put to bed in a subdued light for six or eight weeks; he should be on the back, with a firm bandage over both eyes. Instillations of atropine, administration of iodides and injections of pilocarpine should be used to produce perspiration. This treatment sometimes gives encouragement that may prove to be only temporary. Operations of different sorts have been tried without success.

Danger to the other eye is great. Inflammatory conditions are due to some constitutional diseases and both eyes are usually involved. If trauma is the cause it may involve only one eye but there is always danger of the other eye becoming involved, for the detached membrane may act as a foreign body starting first an irritation, then an inflammation and suppuration ending in panophthalmitis (inflammation of all the tissues of the eye) with the infection passing over to the other eye.

Progressive myopia does not always result in detachment of the retina but most of the cases of detachment are due to progressive myopia. In these cases the two eyes act much alike, running the same course and resulting, probably, in total blindness.

Gingivitis; Pyorrhea

To the Editor:—Dentists disagree in my case. One says I have gingivitis; another says pyorrhea. One says that it is curable; another says that it is not. I am 23 years old and in good health as far as I can judge. I have no systemic disease that I know of that would predispose the tissues to pyorrhea. I do not have malocclusion. My gums bleed easily and they are loose around the lower front teeth. My teeth are not loose and they appear to be in good condition. I have a child 5 months old, whom I nurse. Could the strain of pregnancy and lactation have caused pyorrhea? My gums have been tender for several years but they have grown much worse recently. There is no pus around the teeth. Can pyorrhea exist in the absence of pus? I understand that the technical term "pyorrhea alveolaris" means "a flow of pus from the alveolar process."

A. E. H., California.

Answer.—Any inflammation of the soft tissues surrounding the teeth is known as gingivitis. Gingivitis may result from an irritation. The most common causes of gingivitis are débris of food impactions that collect on the teeth (tartar, scales or lime deposits), malocclusions, irregular teeth, ill fitting dental appliances, mineral poisonings, and constitutional diseases such as nephritis, diabetes and anemia.

A gingivitis of long standing results in a chronic condition accompanied by suppuration and finally a breaking down of the soft tissues that hold the teeth in their bony sockets.

Pyorrhea alveolaris refers to this chronic condition in which there has been an actual breaking down of the tissues with pus formation.

Pyorrhea is rarely seen in persons under 20 but is rather a disease of middle life and old age. Unusual physical exhaustion may contribute to the condition but, ordinarily, pregnancy and lactation have little effect on the condition.

The borderline cases between what may be considered a gingivitis and pyorrhea often offer fine discriminations. This case may be a borderline case. The dentist should check up on all of the possible causes.

Gingivitis is usually curable. Early pyorrhea is often curable if the cause is found and remedied. More advanced pyorrhea can be held in check by constant attention. Advanced cases of pyorrhea, in which one half or more of the attachment of the tooth has been destroyed, are hopeless. Extraction of the teeth will cure the infected soft tissues.

Diarrhea

To the Editor:—Will you please tell me why every vegetable and fruit, and even sugars of all kinds, do not agree with me. They ferment in the intestines and cause a violent diarrhea; even the juice of an orange will do the same. I can eat only milk, bread, eggs and butter without bowel movements following. Could this be secondary to a chronic organic disease or could it be primary? Could nervous debility cause it? I have had the diarrhea for four months. Is the skipping of heart beats, usually after meals, serious?

R. E., Wisconsin.

Answer.—Frequent bowel movements are due to a disease of the colon itself or to a reflex from disease outside the gastro-intestinal tract. The fact that the patient has had a history of diarrhea for four months leads one to suspect that the case may be primary in the bowel itself. A physician would have to study the case to determine this, and as the inquirer is so young he will doubtless save himself much distress through later years if he gets the problem solved now. Since the diet is being limited, he is likely to be missing some essentials to adequate nutrition and symptoms of deficiency diseases may develop as time goes by.

Inability to utilize vegetables, fruits and sugars is the most common symptom of colitis and a diet given for this disease usually excludes for a time all raw vegetables, fruits and all foods high in starch and sugar. The following foods are, as a rule, the least disturbing for colitis victims and at the same time adequate for nutrition, except perhaps in vitamin C: soups, meats, fish, fowl, bacon, eggs, cottage cheese, cream cheese, butter, mayonnaise, cooked carrots, small peas, asparagus, spinach, string beans, young beets (it is sometimes necessary to puree vegetables at first); ice cream, custard, junket, jello and, last but not least, three glasses of half milk and half cream daily. This item is essential, as it provides many calories in a diet that is likely to be low in fuel value and it contains valuable minerals and vitamins. White bread only should be eaten and it should be limited to three slices daily; not more than one cereal should be taken and it should be cooked.

The diet can be generalized gradually but it is often necessary to follow this outline for from three to five weeks. It is not adequate in vitamin C content so it cannot safely be followed indefinitely without the addition of fresh fruits and vegetables.

Skipping of heart beats, while not serious, is not normal. A person with the symptoms described would profit from a physician's advice.

Skin Discoloration

To the Editor:—What would cause a discoloration in the skin, almost in the nature of a rash but apparently under the skin, without any itching or sore feeling. The condition is present in a man of 40, seemingly in good health? The discoloration extends across his forehead to his temples in a patch about an inch wide, and on both sides of his neck almost under the ears in large patches. When he exercises or gets excited the area, which is normally of a light brown color, changes to a bright red and stays that way for quite a while. The patient has seen two doctors about it and they do not make anything of it. Its duration is about two years. For the last seven years, from time to time, this man has been bothered by little white pimples around the roots of his hair and on the extreme end of his nose. He has consulted a great many doctors and has had x-ray treatment for this ailment, but it still continues from time to time. Do you think the discoloration on the head is in any way related to the nose condition?

J. J. G., Connecticut.

Answer.—Many factors will cause either a local or generalized discoloration or pigmentation of the skin. Some of the things that are capable of producing discolored areas in the skin of susceptible people are: systemic disorders; medicinal preparations either applied locally or having gained entrance into the body in some manner; irritating substances with which the patient comes in contact in his work; long continued pressure or irritation of the skin, and light and heat rays of the sun producing freckles or tanning of the skin. The last is probably the most common cause.

Pigmented areas that are limited to the face and neck are common; chloasma, or so-called liver spots, are frequently seen in middle aged or elderly persons; they occur as brownish spots or patches on the face or neck; these areas may be linear, band shaped or irregular in contour. Occasionally hat bands that have been dyed or in which there are some of the chemicals used in the tanning of the leather may cause trouble. Arsenic taken medicinally over too long a period of time or present in drinking water in minute quantities in certain mountainous districts may cause a marked pigmentation of the skin. Since so many factors may cause discolored areas in the skin, considerable time and study are often required to determine the cause in an individual case.

Since two physicians have been consulted in this case, it would be advisable to consult a dermatologist. In the absence of sufficient information it is impossible to state the cause of the trouble or to determine whether or not there is any relation between the discolored areas and the eruption on the face and scalp.

Pneumonia in Hawaii

To the Editor:—I understand that pneumonia and other respiratory diseases are scarce in the Hawaiian Islands. What diseases are the important causes of death among the white people there? Is the climate of the high altitudes of the tropics above the malarial zone unhealthful, provided the sanitary conditions are good and the standard of living is high and provided one takes care to protect the body, especially the head, from the vertical rays of the sun? Are stomach disorders more common among the white people there than in the northern section of the United States?

A. S., South Dakota.

Answer.—Pneumonia in Hawaii is listed among the fifteen principal causes of death. If the two types, lobar and bronchial, are added together each year, pneumonia either heads the list or is within the group of the first five leading causes of death. Furthermore, when lobar pneumonia and bronchopneumonia are listed separately, each type of this disease still maintains a position among the principal fifteen causes of death in Hawaii.

The annual reports of the board of health tabulate the mortality according to the standard practice of the international classification of diseases and causes of death, and figures are available by age, cause and race (color), thus making statistics comparable with the U. S. registration area and other countries. Research work is easily accumulated from the reports that are distributed throughout the mainland, to libraries, colleges and medical schools or to inquirers for special information and study.

There is no malarial zone in Hawaii as there are no anopheles mosquitoes. It has been a miracle that a malarial mosquito has not been introduced into Hawaii by shipping. Therefore, a malarial patient can safely come to Hawaii without risk of spreading the disease.

The climate of the higher altitudes of Hawaii is many degrees cooler than the lower levels and is found healthful for the whites and other races. The standards of living are kept as high as distances will allow.

There is no necessity for protecting the head from the vertical rays of the sun. Newcomers naturally have to be careful at certain seasons, and particularly during the summer, because of the overcast weather. Sunburn readily occurs, which in some instances is severe.

The following is a tabulated statement of deaths resulting from respiratory diseases for the last five years:

Deaths from Respiratory Disease

Year	Mortality from All Causes	Respiratory Diseases	Pneumonia	
			Lobar	Bronchial
1930	3,976	509	218	200
1929	4,481	662	272	275
1928	3,992	660	244	337
1927	3,929	636	200	340
1926	4,056	638	241	311

Although there are no available statistics as to stomach disorders among the better class of white people in the islands, they are probably not more common in the islands than in the northern part of the United States.

Protein Therapy

To the Editor:—I have been told recently that protein therapy (by injection, I believe) has been used in chronic and acute diseases that are thought to be of bacterial origin, such as arthritis, rheumatism, corneal ulcers, multiple sclerosis and others. Would you kindly advise me what your opinion is regarding this method, especially for rheumatism and arthritis of the knee.

C. B. C., Illinois.

Answer.—The intravenous use of foreign protein for such conditions as arthritis has been extensively practiced for the last ten years with varying results. Frequently it gives most satisfactory relief, especially in acute and subacute rheumatism and in other conditions, such as iritis, that are due to focal infection. The object of the treatment is to obtain a temporary rather high fever with its associated tissue changes of metabolism, permeability and immune body formation; theoretically, it produces a rapid, nonspecific mobilization of immune bodies.

The results in acute rheumatism are frequently spectacular, giving within a few hours a large measure of relief from acutely swollen, red, hot, painful joints, but are correspondingly less satisfactory as the condition becomes chronic, especially in the true arthritic type with joint changes.

Freshly killed typhoid bacilli, in dosage of from 25,000,000 to 75,000,000, give satisfactory results, but the reaction is usually accompanied by most disagreeable chills, nausea, vomiting and, frequently, temporary resentment at the attending physician who administered the protein. Other proteins may be used, as may milk or casein solutions intramuscularly, and these give less drastic reactions and less constant results. The procedure can best be carried out by one who has had experience in preparation and dosage of the protein.

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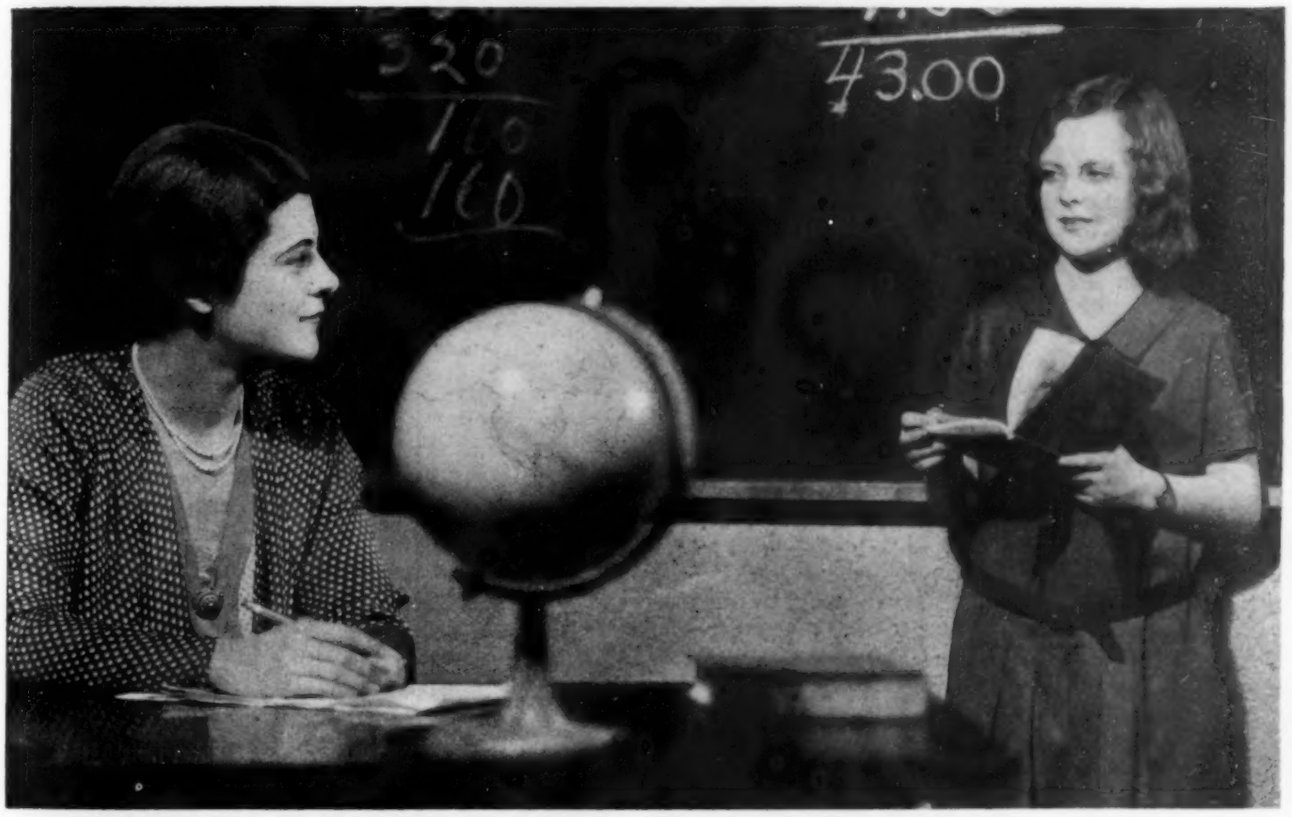
I'll show you the child who ate a Quaker Oats breakfast"



An energy breakfast of Quick Quaker Oats cooks deliciously done in 2½ minutes and costs but 3 cents for a family of five.

IT'S hard to tell a mother that her child needs better breakfasts. But if teachers only could! For many a breakfast that seems good enough at 8 a. m., leaves children tired, nervous and with a miserable, yawning vacancy long before noon. "By 11 a. m.," say teachers, "it's easy to tell which children have had good hot Quaker Oats breakfasts."

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Quaker Oats breakfasts have more to offer children because the famous Quaker process retains every bit of the vital parts of the oat . . . the parts where Nature stores her great protective foods.

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The "Teen Age"

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LOOK at that fine boy of yours, brought safely through childhood ailments. Now, as he enters his "teens", while he is still growing, he must build his health to guard against tuberculosis — a mortal enemy of those in run-down condition.

Adolescence is a critical age in physical development. It is a period of special strain — when growth and change are rapid — and when health and strength must be kept at the highest possible point.

Your boy may be tempted to over-tax his strength and undermine his vitality by striving to compete with older and stronger boys. Or your daughter may risk her health by too much social activity added to her school work, or by dieting in an effort to keep slender in emulation of some screen celebrity. Low vitality and under-nourishment make boys and girls especially susceptible to tuberculosis.

During the early "teens" the development of tuberculosis of the lungs is usually so slight as to cause none of those familiar symptoms of the advanced stages of the disease—loss of weight, lack of appetite, indigestion, fatigue and a persistent cough. The first symptoms in adolescence may be listlessness, over-tiredness, failure to gain weight, night sweats.

But in the late "teens" or early twenties, in event of low vitality, tuberculosis germs — especially in case of re-infection or heavy infection—gain headway. The tuberculosis deathrate reaches its peak among women at about age 22 and among men at about 42. Many of these deaths can be prevented.

Perhaps during no age in life are annual physical check-ups more important and valuable than during adolescence. And should you have any reason to suspect the presence of tuberculosis, consult your doctor as to the advisability of having the tuberculin or x-ray tests to find out whether or not your boy or girl is threatened.

The Metropolitan Life Insurance Company will gladly mail, free, to anyone who requests it, a copy of its booklet, "The Care and Prevention of Tuberculosis." Ask for booklet 4-G-31.

The Metropolitan prints this message to aid in the intensive April campaign of the National, State and local Tuberculosis Organizations to safeguard boys and girls in the "teen age" against tuberculosis.

METROPOLITAN LIFE INSURANCE COMPANY

FREDERICK H. ECKER, PRESIDENT ONE MADISON AVE., NEW YORK, N. Y.

PUBLIC BATHS PROMOTE HEALTH IN NORWAY

In Norway, the city of Oslo, alone, has invested more than $2,000,000 in public baths, and the bath program is being extended. The fact that mortality figures for the cities of Norway are lower than those for the rural regions is attributed to the public baths in the cities by Einar S. Ween, chief manager of the corporation of baths in Oslo and secretary of the Norway Bath Association.

Some of the baths are elaborate, and charges are made for their use. Others are less elaborate, though hygienically safeguarded, and are free. A high standard of sanitation is maintained with filtration, chlorination and purification measures in all the baths. The famous Torgvaten baths, originally built in 1862, are being remodeled and by fall of 1931 will be complete with stem, slipper and spray baths, and swimming pools.

The baths are financed by taxes, and they rank in importance with the city hospital and school projects. The outdoor swimming pool has never become popular in Norway because of the cooler climate. However, the public bath is historically a national custom. A definite program of health education is being carried out by the Norway Bath Association in educating the rural population in the necessity of physical cleanliness, mostly through work in the schools. The association is aiding rural communities in establishing public baths.

FRENCH CHILDREN ATTEND OPEN-AIR SCHOOLS

More than 20,000 French children are attending the 300 open-air schools in France. The open-air school movement is directed by the National Committee of Open-Air Schools which is recognized as a health committee by the government. The schools are sanatoriums where children between the ages of 7 and 14 years may go who are suffering from anemia, tuberculosis or rickets. Children convalescing from other diseases are also sent.

The National Committee for Open-Air Schools aids the French authorities in health work and recruits the personnel of the schools. In 1922 this committee held the first international congress of open-air schools.

Dr. Banting of the University of Toronto, the discoverer of insulin, has been awarded an honorary fellowship by the Royal College of Surgeons of Great Britain.

TOILET HABITS SHOULD START FROM BIRTH

Training the child in toilet habits is a matter of no little concern to every mother. Just when to start is a problem that begins to worry the mother almost as soon as the baby is born and, indeed, she may start soon after.

From the very beginning, the mother may promote regularity of the bowel movements by a gentle massage of the abdomen at morning and at night. She may make a chart of the intervals between the times when she finds the baby wet, and thus she will know the rhythm of elimination.

Then about the third month, it is time to start with the chamber. Following the chart that the mother already has constructed showing the rhythm of elimination, she knows the best time to remind the child of his toilet duties. She should never let him stay too long on the toilet seat. If it is boresome to him, he will not start the habit of telling the mother his needs, and as he grows older, instead of helping the mother, he will cease altogether to cooperate with her.

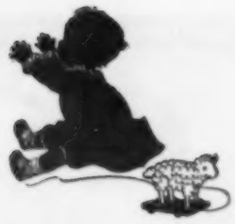
The responsibility for wetness and dryness will continue to be with the mother and not with the child until he is a year or more old. If he is never allowed to remain wet, he will voice his discomfort much sooner when he is wet, thus aiding the mother considerably in her plans.

A DOCTOR'S TRIALS

Trials of a lodge doctor are described by Lewis G. Arrowsmith (a nom de plume) in the *American Mercury*. One day rushing back to the home of a very sick child, where he had left his thermometer, he saw the child being carried into another flat. He chided the parents for moving the child. They appeared embarrassed, especially when he insisted on taking it back to the place where he had examined it. Then he learned that the child did not belong to the family which had called him. It was a common thing, he says, for members to help their relatives and neighbors in this way.

UNDERSTANDING THE CHILD

Understanding the Child, a new magazine for teachers, has been issued by the Massachusetts Society for Mental Hygiene. Prof. J. Mace Andress, editor of the department, Health and the School in HYGEIA, is the editor.



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GROWTH IS ACCELERATED WHILE CHILD SLEEPS

A child grows while he is asleep. During his waking hours he is constantly using his energy in strenuous play, and his tissues have no time to grow. For that reason, sufficient sleep during the growing periods of a child's life is imperative.

New-born babies sleep nearly all the time, awakening only to be fed. As a baby grows a little older he gradually sleeps less. At this stage the mother should see that the baby gets into the habit of sleeping the most at night, and that he gets two good naps a day—a long one in the forenoon and a shorter one in the afternoon.

By the second year only one nap is needed during the day, and that may be taken whenever it is the most convenient for the mother. The baby should, at any rate, be awake during the sunshiny hours at midday. The nap should not last longer than 2:30 because there is danger of spoiling the sleep at night.

The half hour before bedtime should be devoted to quiet play with no exciting stories or romping. The child may get so excited that he will be unable to fall asleep readily, or there is danger that he may get too tired to go to sleep.

Whatever bedtime the mother sets, it should be regular at all costs. Nothing should interfere with the bedtime habit—neither evening shows nor guests. A 6 o'clock bedtime should be observed throughout infancy, and a 7 o'clock bedtime during the early childhood.

Once the child has had all his needs supplied and is tucked in bed, the mother should absolutely disregard his calling or wanting to be told stories. Pampering the child at this time postpones sleep and does not allow him to get into the unbroken bedtime habit.

The amount of sleep required by children of various ages has been estimated as: at birth, 22 hours; at 6 months, 18 hours; at 1 year, 16 hours; from 2 to 5 years, 14 hours; from 6 to 7 years, 12 hours; from 8 to 10 years, 11 hours; from 11 to 12 years, from 10 to 11 hours; from 13 to 15 years, from 10 to 12 hours, and from 16 to 18 years, from 9 to 10 hours.

The amount varies with different children of the same age, depending on the amount of growing that the individual child is doing at that age.

Dr. Emile Roux, director of the Institute Pasteur, in Paris, has been awarded the Pasteur medal of the Swedish Medical Society. The award is given every ten years.

DIFFERENCES MAY CAUSE INFERIORITY COMPLEX

What is an inferiority complex? Miss S. L. Bell, writing in the *Trained Nurse and Hospital Review* defines it as merely the feeling of inferiority that one gets after he has found differences between himself and the persons around him.

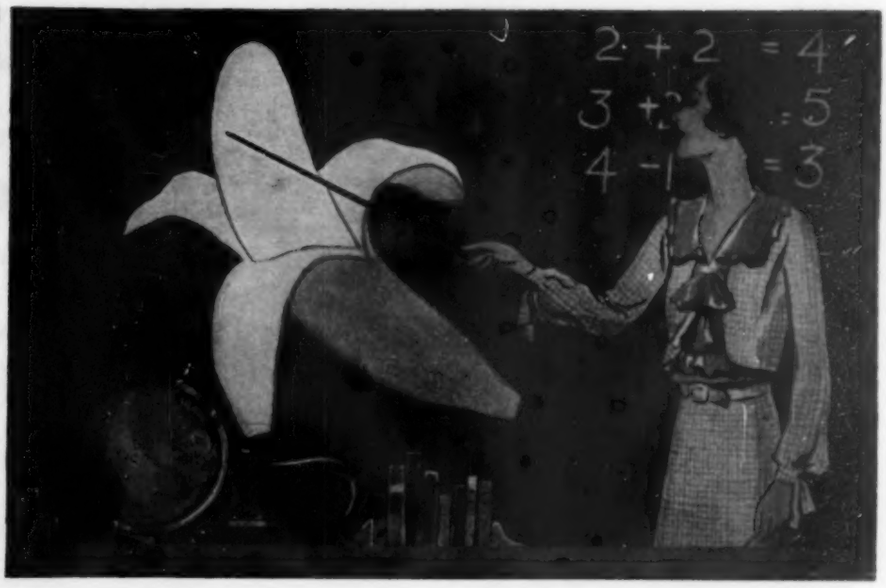
The child with red hair may early show tendencies in this direction, because of the constant teasing from his playmates. That possibly explains, says Miss Bell, why red-haired persons have a reputation for quick tempers.

The Negro child finding himself in a group of white children gets a feeling of inferiority. The child who does not get enough affection from his family and the child from the unhappy home show these tendencies. A physical disorder, such as heart disease or tuberculosis, which necessarily keeps the child from taking a part in the activities of the other children, sets him off from the group and may result in a feeling of inferiority.

Likewise a deformity produces a feeling of inferiority. Curiosity about sex has made many a child feel that there is a barrier between himself and his parents; sometimes he does not even dare to ask questions. Every child should have these matters explained to him even if he does not ask questions before he reaches the age of 10 years, Miss Bell advises.

Once the feeling of inferiority is established it is difficult to break down the wall that the child builds around himself. He shrinks from the company of other children and builds a world of his own in his imagination. Thus the little boy who has been beaten in a fight sees himself as a heroic conqueror. The homely little girl imagines herself as a bewitching beauty. The child after surrounding himself with these comforting ideas is not ready to give them up and face again the real state of affairs. Care must be taken in approaching the situation, but at any rate the situation must be approached, and something must be done about it as soon as it is discovered.

First try to find out the cause. Make the child see that all people have to face the same differences between themselves and other people that he has to face. It is a competitive world. Do not lay stress on his own trouble. If the child has a particular handicap try to show him some compensating factor in his makeup, and try to substitute something worth while for the things that he is forced to miss. Face the problem with the child and help him to see the way out.



In learning to feed our CHILDREN

WE LEARN TO FEED OURSELVES

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Take the case of bananas. It's only a few years since their health value was discovered. But school authorities were quick to encourage children to eat them—and what child didn't want to! Leading physicians, too, began telling us to consider bananas a valuable source of nourishment in the feeding of young children.

So we *had* to find out about the banana's vitamins and minerals. We *had* to learn that the all-yellow, brown-flecked ones are the ripe ones and that no food is easier to digest than *ripe* bananas.

Thanks to all this, we know that bananas rate a place of first importance in our own diet! We've taken a page from the children's notebooks. We've encouraged our families to eat bananas. And now that there are so many ways of preparing them, we rely on bananas just as we rely on any other true and tried staple.

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LEISURE IS A PROBLEM FOR OLD FOLK

How do old people play? This was the subject of a research made recently by Prof. Robert Fry Clark among the eighty-eight county homes for the aged and disabled in Ohio.

Many aged residents in county homes are entertained by fishing trips, by picnics and auto-rides, reports Professor Clark in the *Survey*. In one home, Professor Clark found aged men engaged in football and they were enjoying the sport.

In other homes, Professor Clark reports the lack of facilities for entertaining the inmates, mostly because of the lack of interest of the surrounding community, the lack of time of the superintendents to organize activities for the aged, and because of the fact that the population of these institutions is composed of such varied types of personalities that it is difficult to interest many of them in the same thing. Often the institutions shelter not only the dependent but the mentally deficient and the diseased as well.

Books, magazines and papers—mostly presented by the people of the community—are a source of amusement to the old people in these homes. Some homes provide flower gardening in their attempt to allow the old folk to carry on their hobbies.

The radio, victrola and an orchestra composed of inmates have provided amusement in many homes. Games played range all the way from football to checkers and horseshoes. Visits from friends add considerably to the happiness of institutionalized persons. Trips to the city and to the county fair—each person being given just a little money to spend—have been highly successful.

In some homes, rug weaving, toy making and knitting were found to be pastimes. As a rule, says Professor Clark, the administrative officials of these homes welcome suggestions. They are anxious to keep the old folk, who have already been weighed down with misfortune, as busy and as contented as possible.

The Samuel D. Gross prize has been awarded to Dr. Emile F. Holman of Stanford University for his research on abnormal arteriovenous communication.

The typhoid mortality rate in Minnesota has been reduced from 33.1 per cent in 1910 to 0.44 in 1928, a recent report shows.

F. & R.'s GENUINE GLUTEN FLOUR
Guaranteed to comply in all respects to standard requirements of the U. S. Department of Agriculture.
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JUBILEE BABY ARMLET
Aluminum—Adjustable
$1.00 Pair
Also corrects Nail-Biting
A safe, easy, kindly way. Invaluable if suffering from Eczema or other skin disease. Allows free movement, even considerable bending of elbow. Loose fitting, light, sanitary, cool. Snap fasteners, adjust to 5 different sizes. Handy. At drug or surgical supply houses, or postpaid on receipt of $1. If more convenient, order C.O.D. and pay postman $1.10 on delivery.
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FIGHT INFECTION
Ask Your Doctor
When your physician prescribes a solution to be applied by an atomizer, be sure you say "DeVilbiss" when you buy it. Your doctor will tell you that the atomizer equipment which he uses in his office is DeVilbiss made. DeVilbiss Atomizers for home use are of the same high quality of materials and precision in manufacture.

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Regular examinations assure them Glowing Health

HERE are children radiant with good health. They play hard, work hard, and put enthusiasm into everything they do. They are examined by a physician *regularly*. Any lurking disease is discovered and checked in the incipient stages . . . before it has a chance to cause serious disturbances.

In children as in grownups, good health can be developed and maintained. Periodic physical examinations are one of the surest means. See your physician regularly . . . be sure he employs radiographs to complete his examination, for x-ray findings give a true picture of internal conditions. There is no greater aid to definite diagnosis.

For a quarter hour of stimulating entertainment, tune in on "Devils, Drugs, and Doctors," broadcast each Sunday evening at 8 New York time, over a coast-to-coast network of the Columbia System. These talks, sponsored by Eastman Kodak Company, are given by Dr. Howard W. Haggard, Associate Professor of Physiology, Yale University.

■ ■

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MR. GROCER: The Quaker Oats Company hereby promises to pay you the full retail price of a package of Pettijohn's on presentation of this coupon to The Quaker Oats Company, 141 W. Jackson St., Chicago, when duly signed by the person who receives the free package. Only one to a family.

No payment will be made to coupon brokers. No coupons redeemed after July 15, 1931.

THE QUAKER OATS COMPANY

CALCUTTA MAY OPERATE MUNICIPAL DAIRIES

A milk supply for the city of Calcutta, India, has become a problem so serious that the city may undertake the operation of dairy farms. Calcutta's milk supply is painfully scanty and notoriously bad, according to Sir P. C. Ray, a professor of chemistry at the University of Calcutta.

Professor Ray has advocated the city dairy project as a way out of the difficulty when other methods have already failed. Native Indians take no interest in the raising of dairy cattle, even though they have much grazing territory ideally adapted to dairy farming, he writes in the *Calcutta Municipal Gazette*. The animals are given little food and they are so cruelly treated that the milk yield is low. Scholarships to Indian youths for the study of agriculture in universities of Europe for a number of years have failed to promote interest.

The insufficiency in milk in the diet of the people of the Bengal territory has led to malnutrition, stunted growth and rickets, thinks Professor Ray.

If the city-operated farms were profitable, and there is no reason why they should not be, says Professor Ray, they would be an inspiration to the young men to take up dairy farming, and the farms could continue to be subsidized by the city, he says.

INDOOR GOLF SPREADS RINGWORM

Ringworm infection is spreading through the use of leather-handled golf clubs in minature golf courses, according to a recent bulletin of the Chicago Department of Health. Studies of the germ-laden material on the club handles were made by Dr. Cleveland White of the consulting staff of the department.

Cultures prepared from the scrapings of four clubs yielded ringworm bacteria in eleven out of twenty tests. Two of the tests showed *Trichophyton interdigitalis*, a common cause of ringworm, and the other nine showed *Monilia*, a small yeastlike fungus which also causes ringworm.

Ringworm is often spread in swimming pools and on the leather straps in street cars.

CAMP TRADE MARK

Maternity Supports

Scientifically designed in types of models for all figures, gives low abdominal uplift with no constriction.

Special feature—Original patented adjustment supplying sacro-iliac support and easy regulation to size and pressure as required.

Wonderful reaction to normal health, and mental and physical buoyancy.

Write for special information.

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THUMB SUCKING

Safety Thumb Guards will safely and quickly cure your child of this bad habit.

Guards ingeniously constructed of one piece of German Silver Wire. No ends to loosen, to injure the face or eyes. *Used for fingers also.*

Perfectly safe and sanitary.

Complete instructions with guard.

Price, $1.75 per pair, postage prepaid. State age of child when ordering guards. Satisfaction Guaranteed.

Patent Applied for

THE SAFETY THUMB GUARD CO.
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Of the most absorbing importance to expectant mothers

"A Child is to be Born"

A reprint of the delightful and practical articles in HYGEIA

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$1 Price Postpaid

TO CONTROL OR PREVENT SPREAD OF RINGWORM

Always wear some kind of foot covering except when actually in bed, in the bath or swimming.

If you know you have a skin lesion on the feet or toes, dry them in the tub instead of stepping first on the bath mat.

After bathing, wash the tub with soap and water and scald it thoroughly.

Dry the body thoroughly from head to foot. Never reverse at any point or you may transfer ringworm fungus from the feet or the floor to other parts of the body.

Wash your feet carefully at least once a day, especially between the toes and under the toe nails. Clean your toe nails as thoroughly as your finger nails.

Keep your feet dry and well ventilated by wearing the proper shoes. It is advisable to have at least two pairs and to wear them alternately.—W. R. Redden, M.D., in *Cleanliness Journal.*

SOUTH BEND ORGANIZES SIGHT SAVING CLASS

Children with weak eyes are getting separate attention in the schools of South Bend, Ind., where a sight saving class has been organized. The special class has three aims: to educate with the least possible eye strain, to teach hygiene of the eyes and to provide vocational training for the children with weak eyes.

Books for the class have large type; the children write on unglazed manila paper with lines three fourths inch apart. Care is taken to provide ample light in the room, without glare.

Typewriters are used by the children in the fourth grade and over, not as training for future livelihood, but as one method of saving the eyes. The typewriters have large type faces.

ANTI-CRUELTY SOCIETY SHIELDS CHILDREN

More than 200 children a day are cared for by the New York Society for Prevention of Cruelty to Children. Last year the society cared for 168 children a day. The shelter is supported by private contributions.

And we always say, "It's good flu weather,"
When we poke at the stove and all sneeze together.
As a matter of fact we catch more flu
In the overheated house than the outsiders do.—*Texas Outlook.*

"What toothpaste should I use?"

PATIENTS frequently ask that . . . when you suggest Colgate's, you are on safe ground. You are advising a toothpaste with these distinct advantages:

1. Colgate's has been recommended by Dentists for 30 years.

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See if the seal of acceptance is on the toothpaste you buy.

Send for Samples

Address—Colgate, Dep't of Dental Education
P. O. Box 375, Grand Central Post Office, New York City.

"When the Doctor Said 'Castor Oil' *I knew I was in for trouble"*

BOBBY

"GIVE him a good dose of castor oil and he'll be alright by tomorrow."

It was easy enough for the doctor to say that—he didn't have to *give* Bobby the oil! Bobby is only six, but he could put up the battle of six marines against castor oil.

So I replied, "All right, Doctor, just wait here. I'll get the oil and *you* give it to Bobby." When I handed him the bottle he just looked. "Why," he said, "no wonder the child objects—you're still giving him the old-fashioned stuff. Castor oil today is made *tasteless!* Send out for a bottle of Kellogg's Tasteless" . . .

TO BE SURE IT'S TASTELESS
BE SURE IT'S KELLOGG'S!

Do not let anyone give you so-called "tasteless" castor oil bought in bulk and put up in his own bottles. This tasteless castor oil to retain its tasteless character and freshness, is bottled and sealed immediately upon refining *at the refinery*. Kellogg's is pure, fresh castor oil with the castor oil taste removed by super-refining. It comes to you in the original *refinery-sealed* bottle. Look for the label, the sealed top and the Good Housekeeping Star on the outer carton.

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TEST IT—FIRST

Prove to yourself and children the easy-to-take character of Kellogg's Tasteless Castor Oil. The coupon and 10c brings you a generous trial bottle postpaid.

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Enclosed find 10 cents. Please mail trial bottle of Kellogg's Tasteless Castor Oil.

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THE WORLD'S PUREST CASTOR OIL

PNEUMONIA PEAK COMES EVERY THREE YEARS

That pneumonia appears in cycles of three years each is shown by the Metropolitan Life Insurance Company in figures for the last ten years. The peaks were reached in 1920, 1923, 1926 and 1929. During the peak years, the crest of the epidemic came during the ninth or tenth week of the year.

A close relationship between the epidemics of pneumonia and those of influenza is shown. The fatality rate for pneumonia in 1920 was 678 per hundred thousand, while in 1921 it went down to 126. The figures for influenza show 20 deaths per hundred thousand in 1921 following 441 in 1920.

Pneumonia has a high rate of case fatality while the influenza rate mounts during an epidemic. The weekly death rate for pneumonia rose to more than 100 per week during each of the peak years.

MEMBERS OF ADVISORY HEALTH COUNCIL NAMED

Four members of the advisory committee of the old Hygienic Laboratory, now the National Institute of Health, are included on the new National Advisory Health Council, which was created by an act of Congress last April. They are Dr. Simon Flexner, director of Rockefeller Institute of Medical Research; Dr. M. T. Ravenal, University of Missouri; Dr. M. J. Rosenau, Harvard Medical School, and Dr. William H. Welch, Johns Hopkins Medical School.

Other members are Dr. W. S. Leathers, Vanderbilt University Medical School; Dr. Haven Emerson, Columbia University; Prof. S. C. Lind, University of Maine; Dr. W. H. Howell, Johns Hopkins University; Dr. C.-E. A. Winslow, Yale University, and Dr. Alfred Stengle, University of Pennsylvania.

CORN SUGAR SWEETENING MAY ADD CALORIES

The decision of the United States Department of Agriculture allowing manufacturers to use corn sugar in sweetening prepared products without mentioning corn sugar on the label brings a problem for the calorie counters.

Corn sugar is not as sweet as cane sugar, yet in equal amounts they both contain the same amount of calories. Consequently more sugar will be added in sweetening and the calories will run up, without the consumer's knowledge. The use of corn sugar, however, does not lessen the nutritive value of the product.

DONT HURT YOUR BABY with pins and buttons

Vanta Baby Garments

No Pins No Buttons

KEEP him safe from pins that come unfastened and buttons that turn edgewise. Protect him from the danger of swallowing a pin or button. Dress him safely, comfortably in the downiest of garments that fasten without the need of turning baby once, with dainty bows of twistless tape. Adjustable as Baby grows; never too tight nor too loose.

THOUSANDS of doctors and nurses recommend and millions of mothers use Vanta No Pins No Buttons Garments for the first two years, then Vanta Self Help Garments that make it easy to teach babies to dress themselves, saving mothers' time, and training babies' minds.

Every Garment is of finest Vanta Quality, guaranteed non-shrinkable. Knitted fabrics of silk, wool, linen mesh, rayon, sase, cotton, in every weight prescribed by doctors, always afford complete protection.

Originators—Specialists

Almost every improvement in baby dressing has been originated by Vanta Specialists who make only finest Baby Garments and Hosiery.

Ask your store for the original Vanta Garments. If you cannot get them, write EARNSHAW SALES CO., Inc., Dept. 1000, Newton, Mass. In Canada, write J. R. Moodie Co., Ltd., Hamilton, Ont.

FREE TO YOU

Vanta Pattern, also "Baby's Outfit," a book of 64 pages on care and dressing of babies.

Earnshaw Sales Co., Inc.
Dept. 1000, Newton, Mass.
Without charge now or later send pattern and full instructions for making the new Vanta square-fold, pinless diaper. Also Baby's Outfit book and illustrated catalog, all in plain envelope.

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EFFECTS OF MILK FEEDING OBSERVED IN SCOTLAND

The growth of older children is as much aided by milk as the growth of younger children, a recent study made in Scotland brings to light. Ten thousand children given milk in sixty-seven schools were studied by the department of health of Scotland. Beside showing an increase in height and weight over that shown by 10,000 other children who were not given milk, the milk-fed children showed definite changes in their personality and their lessons benefited.

The study was made by Drs. Gerald Leighton and Peter McKinlay of the department of health during six months of 1930. The milk used was obtained from selected dairies. One half was given raw to one group and the remainder was pasteurized for the other group. There was no appreciable difference between the effects of the raw and the pasteurized milk.

The children used for the study were between the ages of 5 and 12 years. Each was given three-fourths pint during the forenoon each day. Five doctors and seventeen nurses were required to measure all the children before the milk-drinking campaign started. All 20,000 children were again measured after the period of milk feeding.

All the milk-fed children grew more rapidly than the ones who were not fed; the older ones showed as much increase in growth as the younger ones. After one child had been receiving milk for several months, the mother reported that it was the first time for years that he had not had a spring illness. Teachers reported that mental lassitude gave way to alertness and morose children became talkative.

TENANTS MUST AGREE TO HAVE CHILDREN

Married couples taking houses in a certain section of Strasbourg, France, must agree to have children. The section has been laid out by the directors of a candy company with funds that they received as war reparation. The tenants must have an income sufficient to pay the rent of $100 a year and they must give evidence that they are in perfect physical condition.

There are 131 families living in the section and twenty-one babies have arrived in the past year. Thus far, only eight families have been ejected from the colony for refusal to comply with the stipulations.

Germ-laden hands threaten *your* child

How to guard against these 27 "contact" diseases

YOUNGSTERS can't help picking up germs. Their hands are "always into something". Constantly touching books, pets, toys—countless objects that may be covered with germs. And so often sickness follows—sickness that you simply can't explain!

The Life Extension Institute says that 27 germ diseases may be spread by hands. This list, given above, includes many common childhood ailments. Once almost universal, today they are becoming far less prevalent—thanks to simple precautions youngsters are trained to take.

One health precaution stressed by over 120,000 teachers is washing hands frequently—*always* before meals—with Lifebuoy. For Lifebuoy's creamy, abundant antiseptic lather removes *germs* as well as dirt and thus helps protect health. Fine for the complexion—ends body odor, too.

Send for FREE "Clean Hands" game

Are you the mother of soap-rebels—youngsters who never wash of their own accord? Then try making "clean hands" a game with the Lifebuoy Wash-up Chart. Simply fill out and mail coupon below for free chart and trial size cake of Lifebuoy for each of your children. And watch them come to the table day after day with spotless hands!

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HEALTH SOAP
for face, hands, bath

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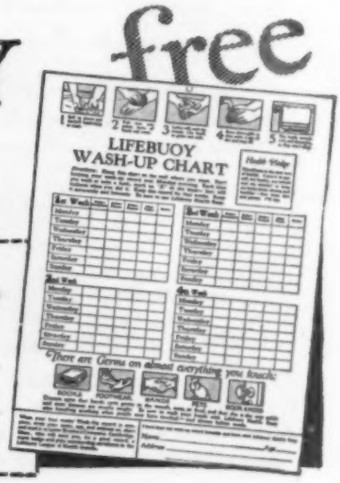

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Please send me, free, Lifebuoy trial cakes and Wash-up Charts for my . . . . . children.

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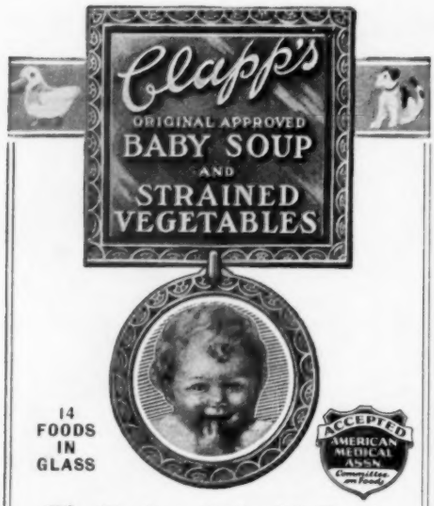

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TO SUPPLEMENT THE MILK DIET

Prescribed by over 5,000 Specialists—

Because they are scientifically prepared under surgical standards of cleanliness and supply the mineral salts needed to produce healthy bones and teeth.

Used daily by thousands of Mothers—

Because they cost less than if made at home and save a Mother at least 24 hours a week kitchen time and give her these extra hours to be out of doors with baby.

Because they are easily carried, keep indefinitely when sealed, are ready to use except for diluting and heating and so are equally convenient for feedings at home or traveling.

Because babies never refuse to take them.

Clapp's Baby Soup. An appetizing combination of Beef Juice, Vegetables and Cereals.

Clapp's Wheatheart Soup, a combination of Vegetables, Cereals, and the Wheat Germ which supplies Food Iron and VITAMINES B, A and E.

Clapp's Liver Soup. Calves' Liver and Vegetables for pale babies.

Clapp's Strained Vegetables

Spinach, Carrots, Asparagus, String Beans, Peas, Beets, Tomatoes, Prunes, Apricots and Applesauce.

Are all prepared from carefully selected materials, especially for growing babies and are immensely liked by them.

These are simply wholesome, healthful foods, packed for convenience and economy in 4 oz. glass jars.—Soups, also in 14 oz. jars.

Ask Your Doctor
and write us for your Dealer's name

In cities your dealer's name is listed in the classified telephone directory under Clapp's Baby Foods.

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Please send booklet
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Use margin for Name and Address

CHILD'S PARTY MAY BE A LUNCHEON OR DINNER

Instead of spoiling children's appetites and probably their digestion by serving refreshments at parties, why not have children's parties at meal time and serve nourishing food, asks Eleanor Omstead Miller in *Child Welfare.*

An ideal party for a young man of 7 includes six guests from 4:30 to 6:30. The guests play ball outdoors until dinner is announced. At dinner, Spanish rice—that saves the embarrassing attempts to cut meat—celery, jelly sandwiches, ice cream and cake, and football favors with candy are served.

Another party for a 5 year old girl is described by Mrs. Miller. It is a luncheon served after kindergarten and ends in time for the guests to get home for their afternoon nap. On the menu is creamed chicken, mashed potatoes, carrots and peas, celery, ice cream and cake and balloon favors.

Children get excellent training in social graces by giving parties and the good that is done should not be counterbalanced by the regrettable aftermath of overexciting games, late parties in the evening or unwholesome food, says Mrs. Miller.

AKRON SHOWS LOWEST DEATH RATE IN 1930

The lowest death rate of any city in the United States during 1930 was in Akron, Ohio, a recent survey of the United States Public Health Service shows. The rate in Akron was 78 per ten thousand inhabitants; other low rate cities were Yonkers, N. Y., 82 per ten thousand; Flint, Mich., 89, and Detroit, 92.

Chicago and New York rates were almost equal, 104 and 107, respectively. Philadelphia had the highest rate of the five largest cities in the country. New Orleans had the highest rate of any city, 174, which is accounted for by the large percentage of Negro population.

Large cities have slightly lower rates than cities of intermediate size, the survey shows, possibly because of the better sanitary facilities that prevail in them. Cities that grew considerably during the war period have a lower rate, partly because of the more up-to-date living quarters and because the population has a large percentage of young persons who flocked to these cities.

The largest Y. M. C. A. in the world exclusively for Negroes will be erected in the Harlem district of New York at a cost of $900,000.

CELLU FRUITS

Canned Without Sugar

Are an important addition to starch and sugar restricted diets.

The adaptation of this normal food to the restricted diet helps to increase the variety, palatability and volume of the food allowed.

The food value of Cellu canned fruits is sufficiently low to permit the calculation of a small amount in the most exacting dietary.

We will be glad to mail a catalogue to you and your doctor in order that you may have complete information concerning these fruits.

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HOW OFTEN *Should Little Heads Be Washed?*

"The use of DERBAC Health Shampoo once a week is not too often," experts say, "even with the treacherous weather changes of early spring."

DERBAC is *more* than a cleanser—it heals the scalp and prevents infections. DERBAC and the Special DERBAC Comb are the ideal combination for treating Pediculosis.

20 Shampoos for 25 cents, at your druggist.

FREE—"Funny" booklet to interest children in hair care. Mail coupon.

Derbac
HEALTH SHAMPOO

CEREAL SOAPS CO., INC., Dept. H-4
334 East 27th St., New York, N. Y.
Please send me free copy of your "Funny" booklet.
Name.....
Address.....
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NATIVE ORIENTAL FOOD SUPPLIES DIETARY NEED

After being used in the Far East for 5,000 years, soy beans are now recognized in this country as an ideal food, containing more protein than beefsteak and calcium and vitamins in which meat is deficient. Soy beans have been known in America for only 200 years, and they attracted little attention until Admiral Perry brought back some from Japan in 1854. Since that time, they have been cultivated only for animal consumption.

In the Orient, where there is little meat and milk, soy beans form the basis of the diet. In many sections animals are not killed because they are sacred, and in others, there is not space for animal husbandry.

Soy beans contain more protein than other natural foods. They are capable of replacing the protein in milk, eggs, bread, other cereals, lima beans and navy beans. They have twice the food value of walnuts.

People in this country have yet to procure appetizing recipes for the preparation of soy beans; the possibilities are that it will not be long before they are put on the market in a form suitable for table use.

SCHOOLS FOR CRIPPLED LOCATED IN 85 CITIES

One out of every four hundred children in the United States is crippled. Recognizing this fact, eighty-five American cities have established special classes for crippled children in the schools. Chicago, in 1899, inaugurated the plan. Today there are four such schools in Chicago with an attendance of 1,600.

Forty-five per cent of the children that are crippled have had infantile paralysis. Others became crippled as a result of tuberculosis of the bone, accidents, and bone infections.

Children in the school for crippled children in Newark, N. J., play baseball with the umpire on crutches and the catcher sitting on the ground if he finds it more convenient. It is customary for the bleachers to be filled with wheel chairs. Crippled girls in the school play volley ball.

INDIAN BIRTHS INCREASE

Births among the Indians in California have been increasing for the last several years. There were 314 Indian births during 1929, or 0.4 per cent of the total births, as compared with the 123 Indian births, or 0.2 per cent, in 1920.

. . . First Thought In First Aid . . .

IODINE

Quick!

THERE IS NO SCRATCH TOO SMALL TO NEED THE PROTECTION OF *IODINE*. THERE IS NO INJURY TOO GREAT BUT THAT YOU CAN HELP RENDER IT FREE FROM INFECTION BY THIS MOST PERFECT GERMICIDE.

In the important matter of the choice of an antiseptic for First Aid use at home, be guided by the advice of leading physicians and hospitals all over the world who rely on IODINE because (1) it has great penetrative ability; (2) it has high germicidal potency. Write today for your free copy of the booklet "IODINE, the Great Protector", which contains valuable first aid advice.

IODINE EDUCATIONAL BUREAU
64 Water Street
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Nothing takes the place of Iodine

. . . . just good spinach in finely powdered form

ADVOCATES of spinach, as an excellent article of diet, are legion—and rightly so, for its wonderful mineral values, its vitamins, and the many delightful ways of serving it are well known.

NOW comes SPINTRATE—a simple concentrate of good, fresh spinach, so finely powdered as to make it an ideal way for everyone—even very young babies—to take advantage of its nutriment.

Physicians recommend SPINTRATE for diet in even delicate cases, and baby specialists suggest its inclusion in many of their formulas for bottle fed babies. The mineral values are retained in ambulance, and vitamins A and B are available in potent quantities.

The Package Contains Recipes

Try it to-day! Get a jar of SPINTRATE from your druggist. If he cannot supply you, give us his name and order your first package from us direct. You pay the postman 75c (regular retail price) on delivery.

ACCEPTED AMERICAN MEDICAL ASSN Committee on Foods

SPINACH PRODUCTS COMPANY
of South Carolina
Columbia, S.C.

wanted! HYGEIA AGENTS

Convert your spare time into cash—

REPRESENT HYGEIA

in your neighborhood during the coming year. College students, office workers, housewives, teachers and many others are adding to their regular income by working evenings and spare hours. So can you!

Everybody is interested in health. Everybody can profit by the straightforward, scientific, fascinating health talks in **HYGEIA.** You will enjoy being the one to introduce them.

Liberal Commission and Bonus Paid to Representatives

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535 N. Dearborn St., Chicago, Ill.

I am interested in your offer to HYGEIA representatives. Send me full details about your proposition.

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SMALLPOX IS CAUSING BLINDNESS IN INDIA

Money spent in smallpox prevention in India will go farther in relieving blindness than money spent in establishing institutions for the blind, in the opinion of Lieut.-Colonel Wright of the Madras Ophthalmic Hospital.

More than one and a half million totally blind persons live in India at present, and many of them were blinded by smallpox, says Colonel Wright. There are three times as many who have defective sight, much of it caused by smallpox.

A few traveling eye dispensaries have been established in the country, and the future program calls for school medical service, popular education concerning the eyes, and additional schools of ophthalmology, says Colonel Wright.

PLAN MAY ELIMINATE NEW YORK SLUMS

New York City can be rid of its slums in ten years if the plan of the Welfare Council is adopted, states Peter Grimm, president of the New York Real Estate Board. By a process of condemnation and the purchase of properties by the city, the tenement districts can be made presentable and at the same time made to furnish sanitary low-priced housing.

The plan involves the enlistment of private capital after the properties have been purchased by the city. The long term leases to private capitalists would include free taxes making it possible for the operators to maintain the housing at a minimum rent. The plan calls for the city to supervise the project in conjunction with the New York State Housing Board.

BARGES BRING SCHOOLS TO CANAL BOATS

More than 1,700 children in England are being taught on the floating barge schools moored at strategic points in the canals to provide education for the children of 500 families living in house boats. The families are employed in the canal boat service, making it impossible for the children to get on land for school.

COLD PREVENTIVE PLAN

A "No Cold" club organized in a junior high school of Chicago reduced the number of colds among the pupils to a minimum. Each member of the club was required to sign a pledge, promising to follow the cold-preventive measures laid down by the club.

TRENCH MOUTH INFECTION IS EASILY SPREAD

Dangers from trench mouth are far greater than most persons imagine. The disease may be transmitted by drinking cups and improperly cleansed eating utensils and through the coughing or sneezing of an affected person. The germs lodge between the teeth of the victim, growing until they produce a swelling and reddening of the gums.

The germs may be carried to the tonsils or through the entire body; it has been known to prove fatal. In the chronic state when there is a slight infection, it may exist for months without the victim being aware of anything other than a few tender spots on the gums. He may think that he is getting pyorrhea; often times, trench mouth has been mistakenly treated for pyorrhea.

A survey of children in Chicago schools showed that 34 per cent had evidence of this infection. Of 3,515 pupils examined, 112 were found to be severely infected; 112 were mild cases, and 996 were carriers of the germ.

Trench mouth is known to the medical profession as Vincent's angina. It obtained its popular name during the World War when many soldiers in the trenches had the disease. With proper care the condition will heal in about three weeks, but the victim should be in the hands of a competent doctor or dentist.

Precautions should be taken to prevent the spread to other members of the family. The victim should have his own towel and eating utensils, which should be boiled in soapsuds. His toothbrush should be kept entirely separate from others, and he should not eat in public places, where he might spread the disease.

PUBLIC HEALTH NURSES SERVE INDIANS

More than 300 nurses are doing relief work among the American Indians in the Western States as a part of the Public Health Service. There are 80 public health nurses, 16 traveling surgical nurses and 250 hospital nurses working on reservations and in the government schools.

The Indian Public Health Service was established in 1924. Prior to that social workers were sent to the reservations by the government.

Mount Sinai Hospital, New York City, which began as a private dwelling hospital in 1852, now has accommodations for 654 patients.

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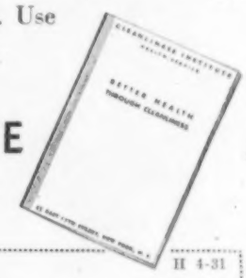

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PROFESSIONAL DONORS WILL BE LICENSED

Professional blood donors in the city of New York will be required to secure pass books issued by the department of health under a new law that has just gone into effect. The pass books will be issued only after the donor has had a satisfactory examination.

A number of blood-donor agencies have been operating in New York; little control has been exercised over the donors, who in some cases have been diseased. In the future all agencies will be required to have a license.

Before a person can sell blood for a transfusion at a hospital, he will be required to show the pass book, containing a photograph of himself, the certificate of examination and the statement of the blood grouping by the laboratory of the health department.

At the present time, the health department estimates that there are more than 5,000 professional blood donors in the city.

WHY CHILDREN SHOULD VISIT THE DENTIST

Here are six reasons why children's teeth should be cared for:

1. No child can chew his food properly with decayed, irregular or misplaced teeth. This overworks the stomach and injures the digestion.

2. Badly decayed teeth will abscess. Abscessed teeth can poison the child's system, and may cause heart trouble, kidney trouble, stomach trouble and rheumatism.

3. Badly decayed, abscessed teeth must be cared for or extracted. Extraction may cause irregular and malformed jaws.

4. Every neglected, decayed tooth may cause the tooth next to it to decay. Stop decay and thereby save teeth.

5. Decayed, aching or abscessed teeth decrease a child's ability to study and often keep him out of school. This hinders his school work and this severely handicaps him in the race of life.—*Bulletin*, Milwaukee Health Department.

CALIFORNIA NURSES WORK BY HOUR

Instead of nursing patients by the day, the Oakland (Calif.) Nursing Association is trying out the hourly nursing plan. Persons of moderate means may secure nurses for the time they are needed in the home to carry out the doctors' orders. Since the plan was initiated there has been a 47 per cent increase in the number of calls for nurses.